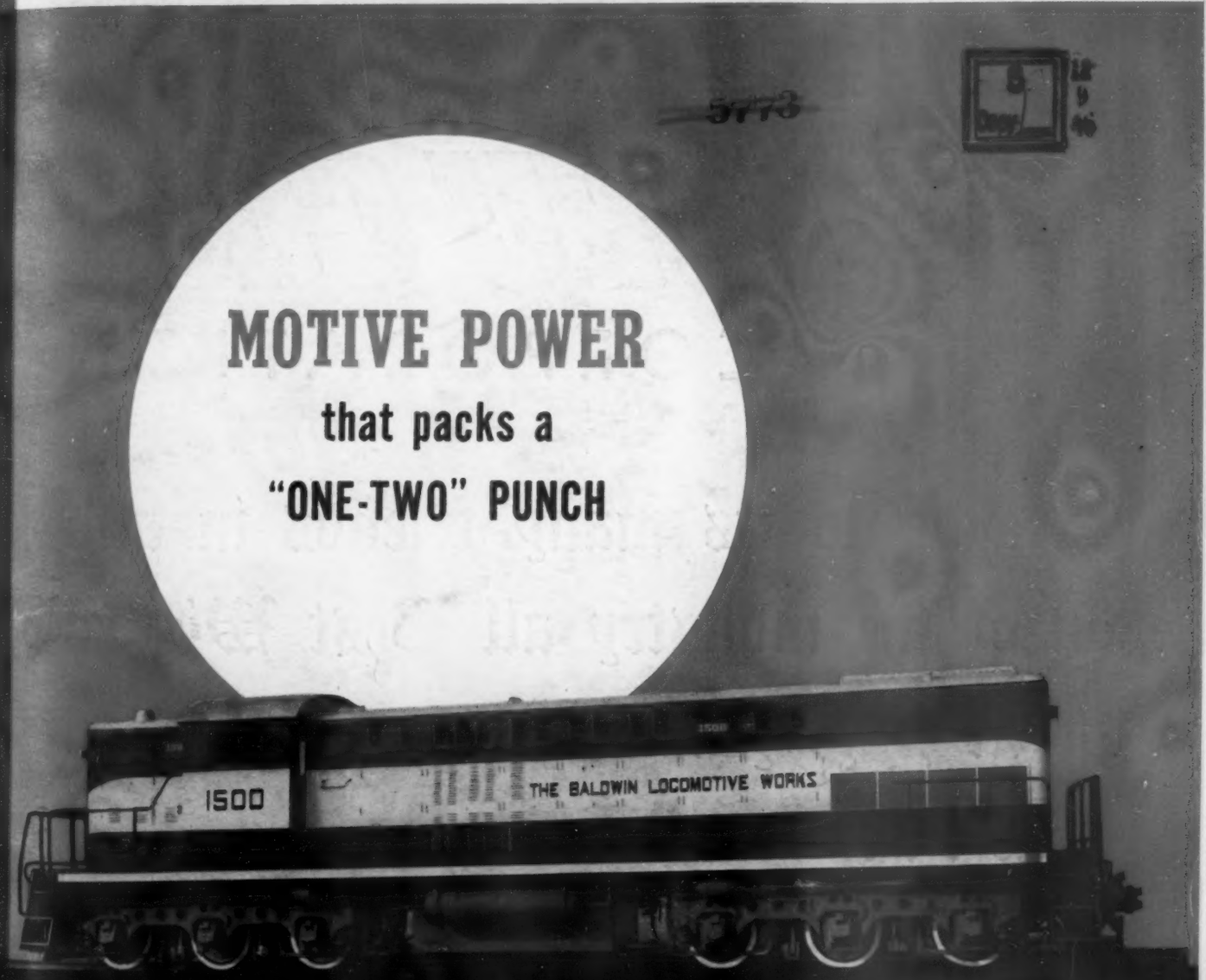
DECEMBER 14, 1946

Editorial Contents, page 57

Railway Age

Founded in 1856



1500 hp General Purpose

DIESEL-ELECTRIC LOCOMOTIVE

Here is a diesel-electric locomotive designed for the dual service of hauling branch line freight or passenger trains and also filling in as a yard switcher between runs.

If you have a problem like this on your road, the nearest Baldwin representative will welcome the opportunity to tell you more about this general purpose locomotive.

The Baldwin Locomotive Works, Philadelphia 42, Pa., U.S.A.
Offices: Philadelphia, New York, Chicago, St. Louis, Boston, Washington, San Francisco, Cleveland, Detroit, Pittsburgh, Houston, Birmingham, Norfolk, Seattle.

BALDWIN

UNIT TRUCK CORPORATION

Extends to its many friends in and out of the industry all Best Wishes for A Happy and Prosperous★New Year . . .

★ To be more specific—we hope 1947 will be as good for you as 1946 was for us when 100% more Unit Trucks were bought by U. S. railroads than were bought during the preceding year.

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 50 cents each. Vol. 121, No. 24.

FOR SAFETY SAKE AND *Dependability*

MINER

HAND BRAKES AND SAFETY LOCKING PINS

Were specified for these Modern Trains

LOUISVILLE & NASHVILLE R. R.

The Humming Bird

LOUISVILLE & NASHVILLE R. R.
NASHVILLE, CHATTANOOGA & ST. LOUIS RY.

The Georgian

W. H. MINER, INC. CHICAGO

FREIGHT is FAST

SINCLAIR GASCON

...SYMBOL OF DEPENDABILITY

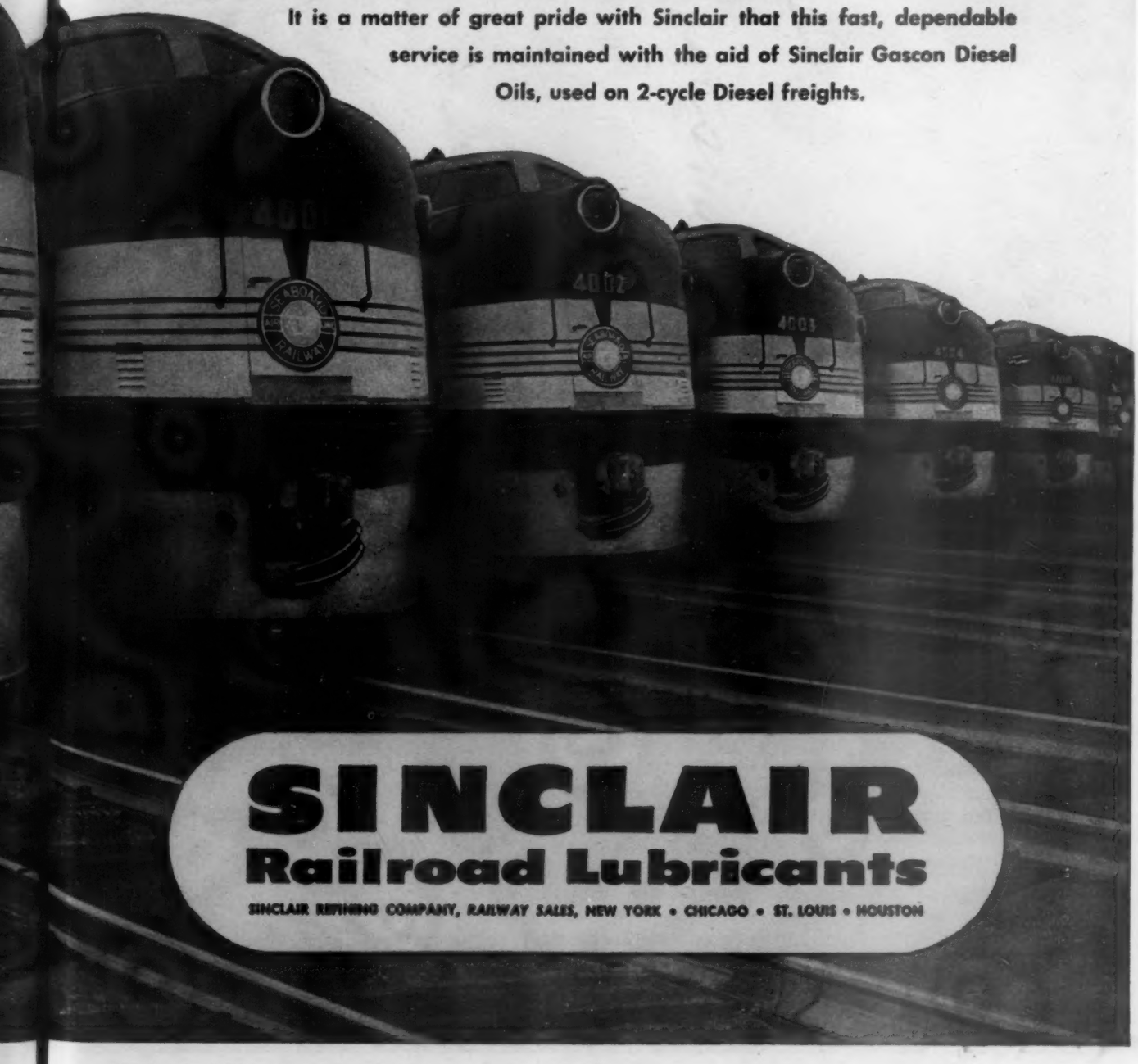
Sinclair Gascon Diesel lubricating oils have achieved the stamp of approval from 40 U. S. railroads. Their service record, in the locomotives pulling heavy freights, as well as many of the celebrated streamlined trains of today, is outstanding.

Inherent in all Gascon Oils is their solvent action, which promotes clean engine operation, and wear-prevention qualities that hold down expensive replacement and maintenance costs.

T on the SEABOARD AIR LINE

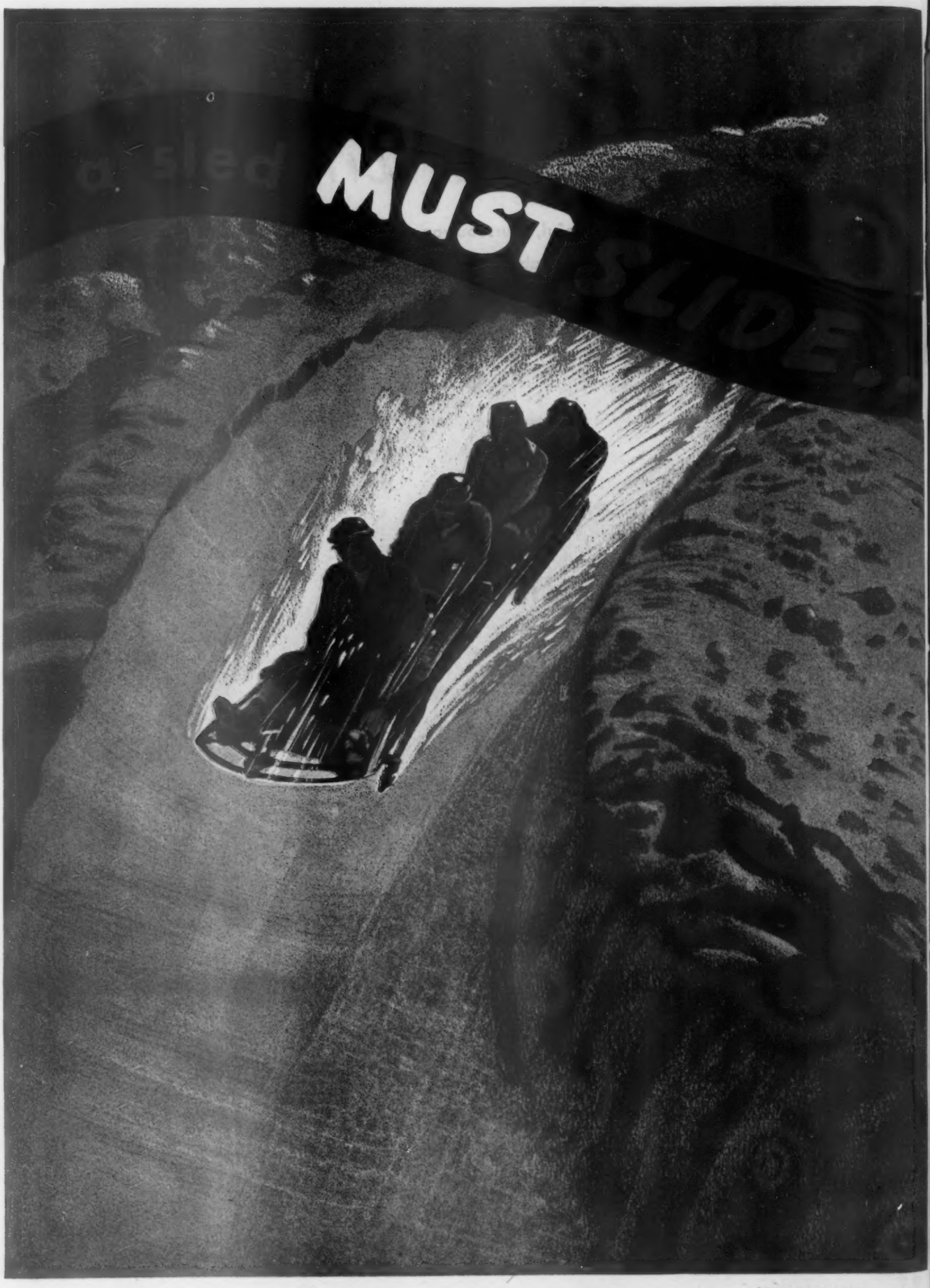
Speed—coupled with traditionally careful, courteous operation—characterizes the Seaboard Air Line Railroad, famed carrier of perishables from Florida and other Southeastern producing areas to the great markets of the East and distributor for the vast, increasingly industrial Southland. To expedite this sectional exchange of goods with maximum dispatch, Seaboard counts heavily on its modern fleet of swift Diesel freights.

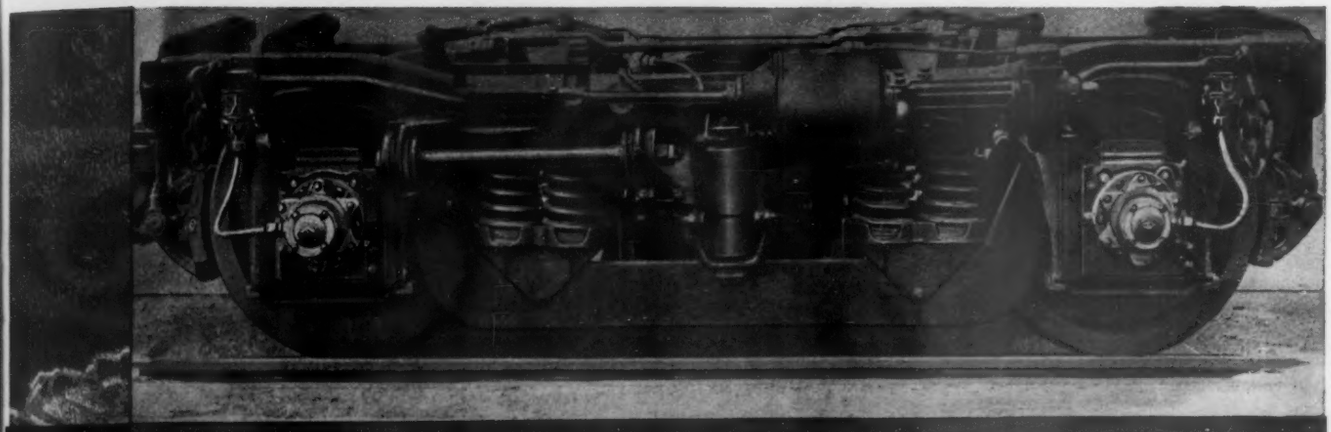
It is a matter of great pride with Sinclair that this fast, dependable service is maintained with the aid of Sinclair Gascon Diesel Oils, used on 2-cycle Diesel freights.



SINCLAIR
Railroad Lubricants

SINCLAIR REFINING COMPANY, RAILWAY SALES, NEW YORK • CHICAGO • ST. LOUIS • HOUSTON


MUST SLIDE



...but a wheel MUST NOT

Prevent slid flat car wheels with the AMERICAN BRAKE SHOE CONTROLLER

A sled is *supposed* to slide, but a car wheel *is not.* A sliding wheel means costly railroad operation, loss of car availability and loss of passenger goodwill.

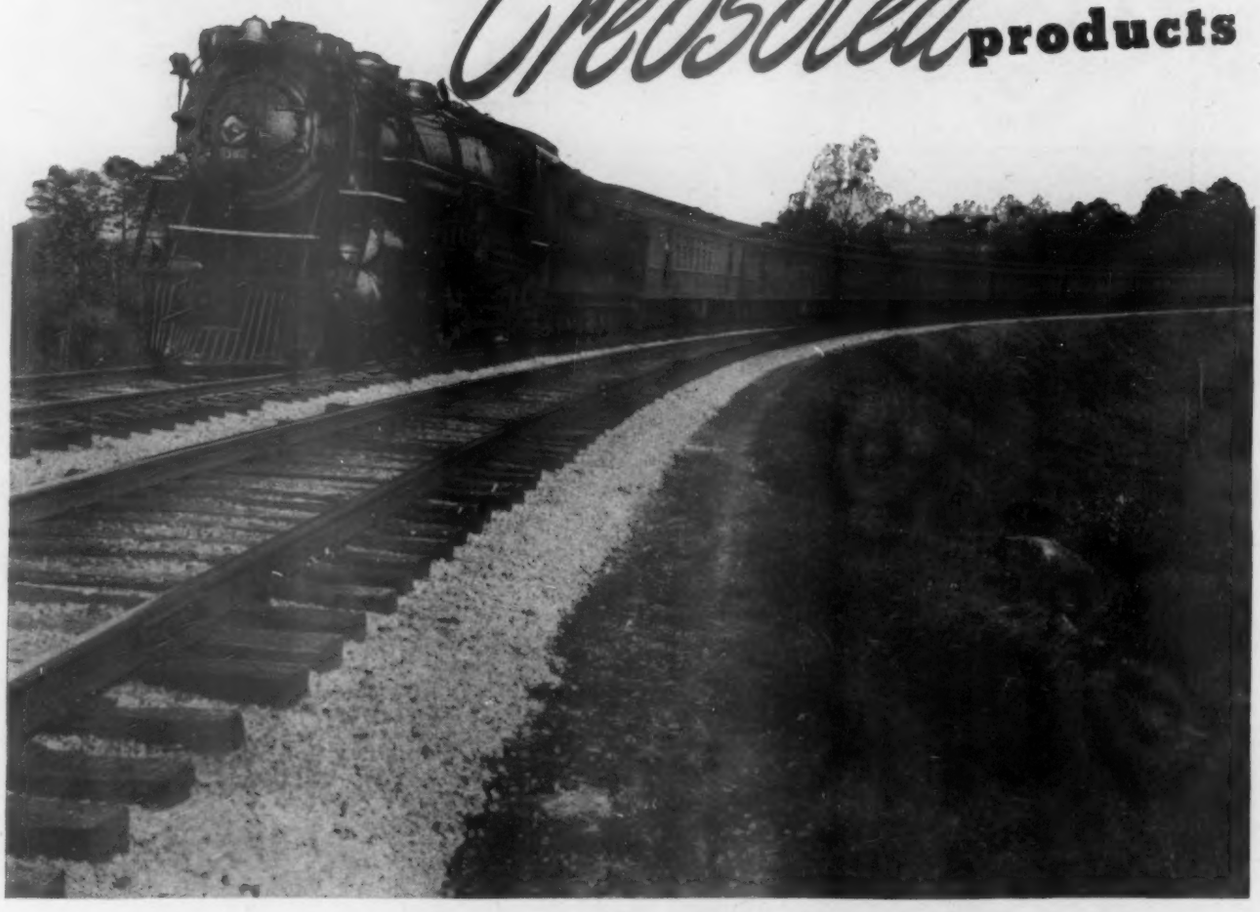
Prevent these losses with the speedy, electrically-operated American Brake Shoe Controller. This is a simple, positive-acting device in wide and successful use on high speed passenger trains.

The American Brake Shoe Controller can be tested while the train is moving or standing. Control starts the instant slipping begins, so that the controlled wheels never reach the stage of sliding. Full brake is restored the moment that slip is eliminated. The American Brake Shoe Company, 230 Park Avenue, New York 17, N. Y.

AMERICAN Brake Shoe COMPANY

BRAKE SHOE AND CASTINGS DIVISION

Amcreco *Creosoted* products



Today's faster operating schedules demand a *sound roadbed—*

ADZED & BORED CROSS TIES

BRIDGE TIES

PILES

FRAMED BRIDGE TIMBERS

AMERICAN CREOSOTING COMPANY
INCORPORATED

COLONIAL CREOSOTING COMPANY INCORPORATED

AMCREFCO LOWRY PROCESS CREOSOTED WOOD

GEORGIA CREOSOTING COMPANY INCORPORATED

ADDRESS INQUIRIES TO CHICAGO, ILL., OR LOUISVILLE, KY.

DESIGNED FOR BLACK INK

Budd builds stainless steel railway cars for the express purpose of providing superior transportation *at a profit* for their owners.

Part of the profit comes from increased patronage which their beauty, comfort and safety attract.

And a very substantial part comes from reduction of costs for maintenance and repair.

These reductions are accomplished in two ways. First, by building with stainless steel, twice as strong as any other structural material used in railroad cars. Second, by imaginative design which anticipates maintenance requirements. One example is shown on the following two pages.

The results are found in the unequalled "availability" record of Budd cars. They're out on the rails, earning their keep and then some.

THE BUDD COMPANY

Railway Division • Philadelphia

Overhead air-conditioning unit *ABOVE THE VESTIBULE*

ANOTHER MAINTENANCE FEATURE THAT MAKES BUDD CARS ECONOMICAL TO OPERATE

The usual practice is to install air conditioning units over the men's lounge or other low ceiling areas of the car. Small access doors lead to the elements which require maintenance. However, if the entire unit must be removed, considerable time and care is required. This operation is particularly costly because a large, heavy, bulky piece of equipment is taken out through the interior of the car, often damaging the trim, paint and carpet.

The new Budd design permits the unit to be maintained through a pair of trap doors in the ceiling over the platform. Filters, expansion valves and pipe connections are all accessible from this one location. In a fraction of the time formerly required, the entire unit can be disconnected quickly and lowered directly to the car platform without even unlocking the door into the passenger compartment.

Budd

EVAPORATOR
ACCESS DOOR

"For low cost Protection...

...apply FLINTKOTE CAR CEMENT"

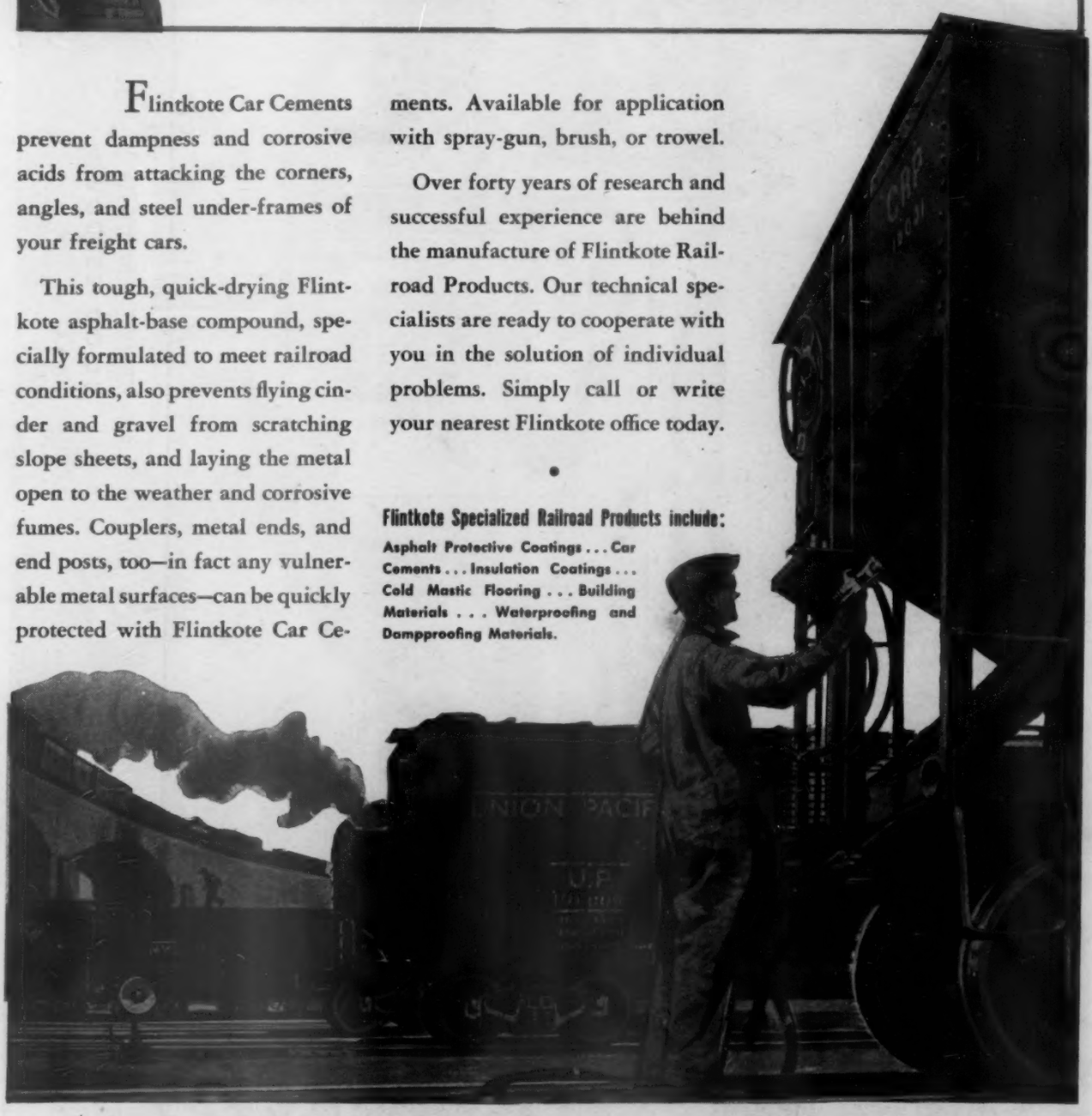
Flintkote Car Cements prevent dampness and corrosive acids from attacking the corners, angles, and steel under-frames of your freight cars.

This tough, quick-drying Flintkote asphalt-base compound, specially formulated to meet railroad conditions, also prevents flying cinder and gravel from scratching slope sheets, and laying the metal open to the weather and corrosive fumes. Couplers, metal ends, and end posts, too—in fact any vulnerable metal surfaces—can be quickly protected with Flintkote Car Cements. Available for application with spray-gun, brush, or trowel.

Over forty years of research and successful experience are behind the manufacture of Flintkote Railroad Products. Our technical specialists are ready to cooperate with you in the solution of individual problems. Simply call or write your nearest Flintkote office today.

•

Flintkote Specialized Railroad Products include:
Asphalt Protective Coatings . . . Car Cements . . . Insulation Coatings . . . Cold Mastic Flooring . . . Building Materials . . . Waterproofing and Dampproofing Materials.



Flintkote-Products for Industry

THE FLINTKOTE COMPANY · INDUSTRIAL PRODUCTS DIVISION
Atlanta · Boston · Chicago Heights · Detroit · Houston

FLINTKOTE INDUSTRIAL PRODUCTS

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.
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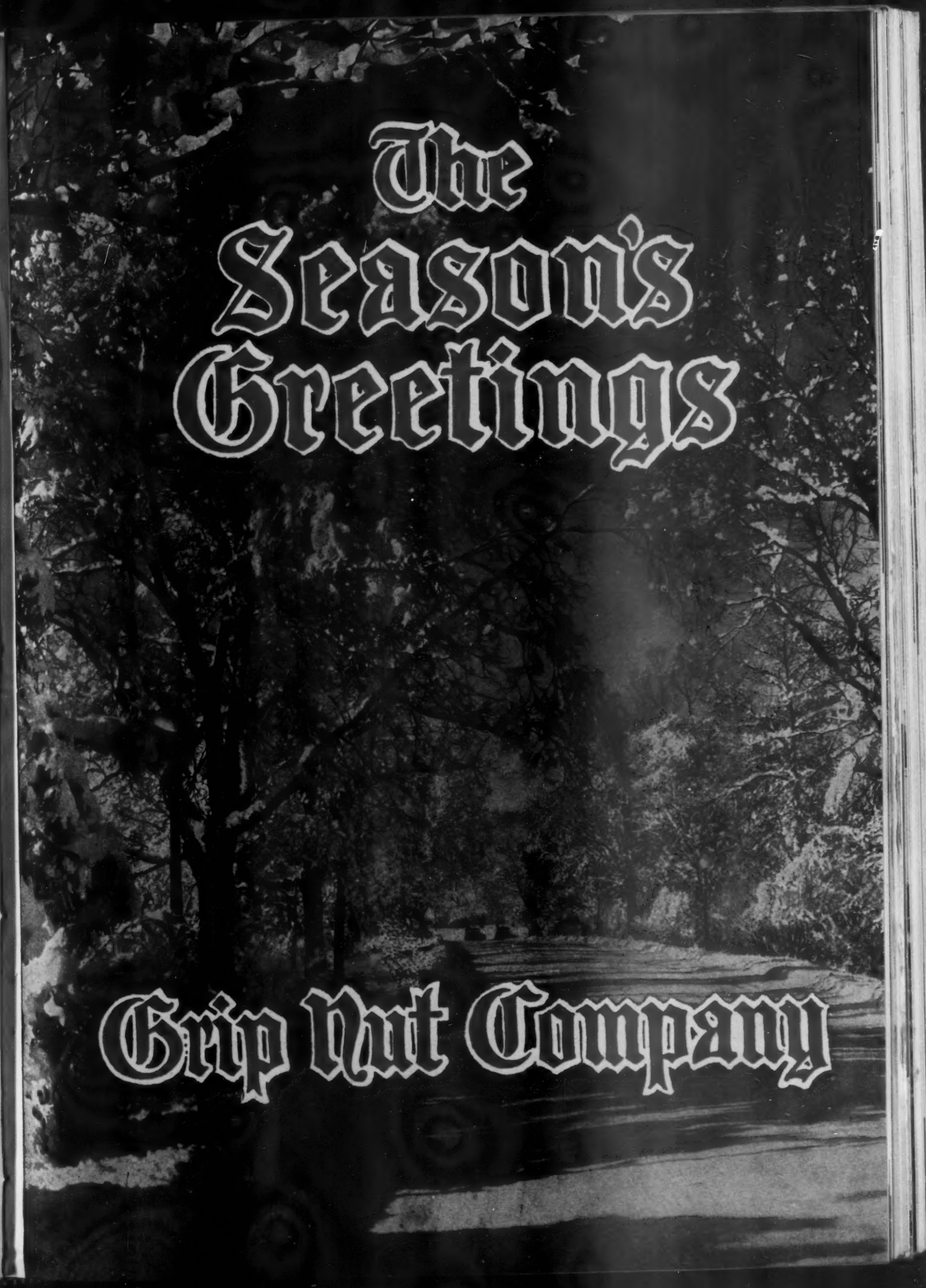
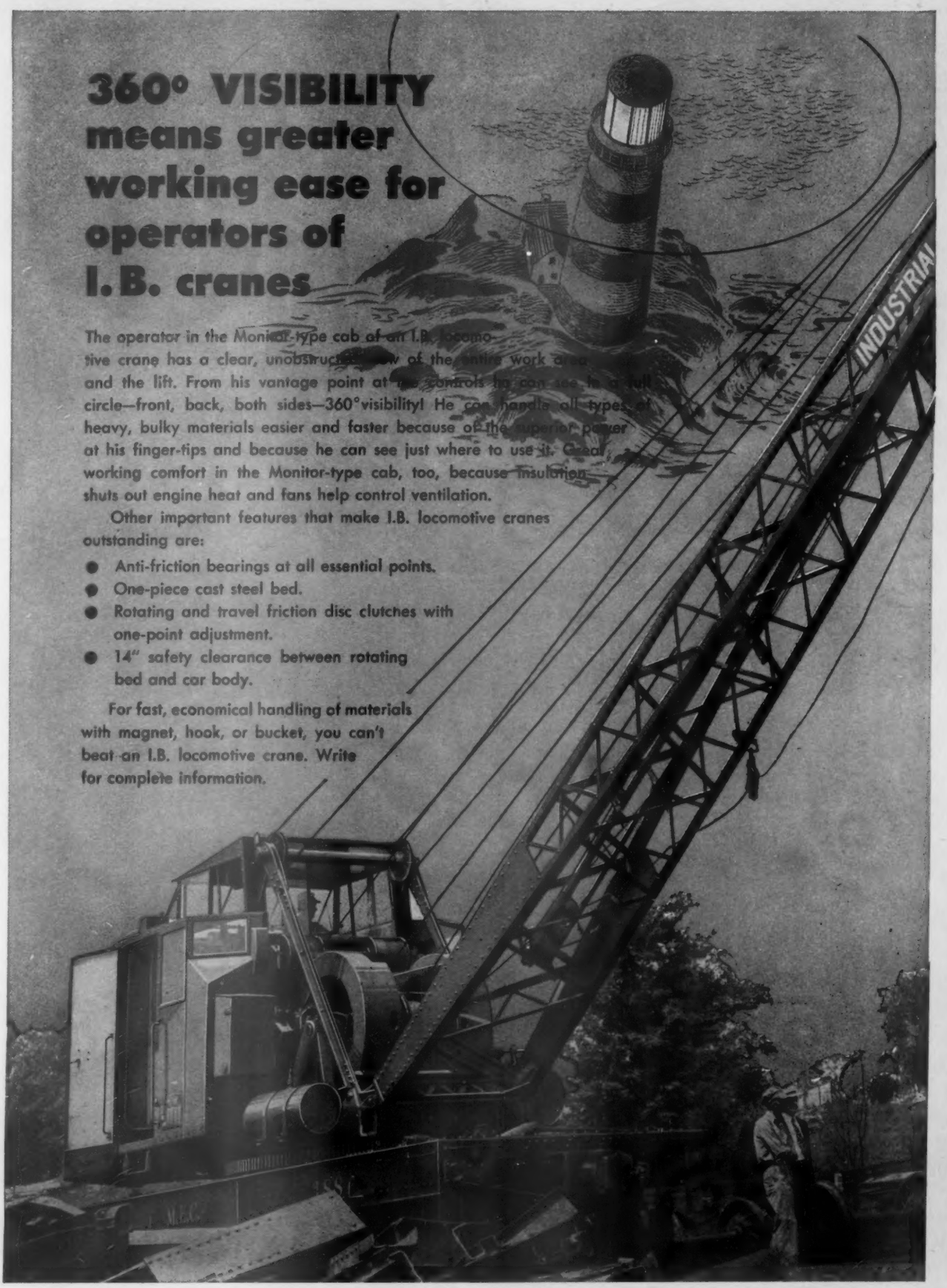

The
Season's
Greetings
Grip Nut Company

360° VISIBILITY means greater working ease for operators of I.B. cranes



The operator in the Monitor-type cab of an I.B. locomotive crane has a clear, unobstructed view of the entire work area and the lift. From his vantage point at the controls he can see in a full circle—front, back, both sides—360° visibility! He can handle all types of heavy, bulky materials easier and faster because of the superior power at his finger-tips and because he can see just where to use it. Great working comfort in the Monitor-type cab, too, because insulation shuts out engine heat and fans help control ventilation.

Other important features that make I.B. locomotive cranes outstanding are:

- Anti-friction bearings at all essential points.
- One-piece cast steel bed.
- Rotating and travel friction disc clutches with one-point adjustment.
- 14" safety clearance between rotating bed and car body.

For fast, economical handling of materials with magnet, hook, or bucket, you can't beat an I.B. locomotive crane. Write for complete information.

INDUSTRIAL BROWNHOIST BUILDS BETTER CRANES

INDUSTRIAL BROWNHOIST CORP • BAY CITY, MICH. • District Offices: New York, Philadelphia, Cleveland, Chicago • Agencies: Detroit, Birmingham, Houston, Denver, Los Angeles, San Francisco, Seattle, Vancouver, B.C., Winnipeg, Canadian Brownhoist Ltd., Montreal, Quebec.

MAGOR

Designers and Manufacturers of Freight Cars of All Types Including Air Dump Cars...

MAGOR CAR CORPORATION

50 Church Street
New York 7, N. Y.

ARMCO Multiple Wear Wheels and ARMCO Stainless Steel sheets for the vestibule doors were specified for the new twin Pere Marquette trains operating between Detroit and Grand Rapids.

THE "101" ROLLS ON Armco Wheels

When the Pere Marquette's new "101" and its sister train "open it up" between Detroit and Grand Rapids, they roll along on ARMCO Multiple Wear Wheels.

Designers specified ARMCO "Multiple Wear" because of their long record of satisfactory service on the country's main-line roads.

This record of top performance is not the result of chance. It embodies all Armco's years of research and experience in making wheels. Close control of quality at every step in manufacturing — plus rugged Armco-developed tests — give them what's needed for long trouble-free service.

Get all the facts on Multiple Wear and other ARMCO Wrought Steel Wheels. Call our nearest district office or write The American Rolling Mill Co., 4871 Curtis St., Middletown, O.

MORE SCRAP MEANS MORE STEEL

We urge you to collect every pound of steel scrap including unused and obsolete equipment. Speed it to the steel industry through regular channels. High production can't be held unless more scrap comes to the mills. The situation is critical. Act now.

ARMCO

The American Rolling Mill Company

Wrought Steel Wheels • Special-Purpose Sheet Steels • Stainless Steel Sheets, Bars and Wire

Give Your Seating this Permanently

Buoyant Action

on LAND on SEA and in the AIR

TRAVEL COMFORT CUSHIONS

with

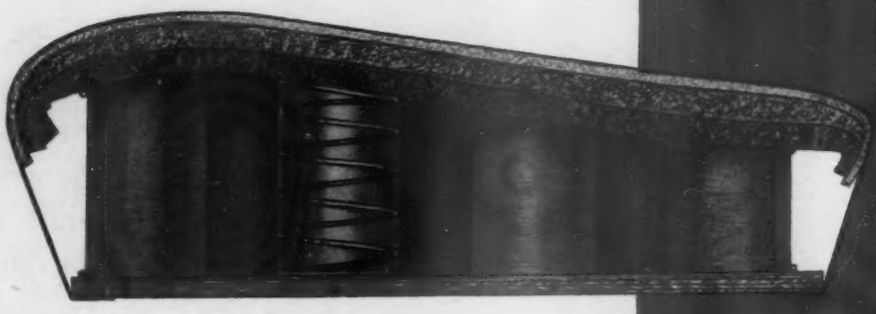
TRAVEL COMFORT CUSHIONS*

• You can have any type of cushioning top-pads on TRAVEL COMFORT CUSHIONS.

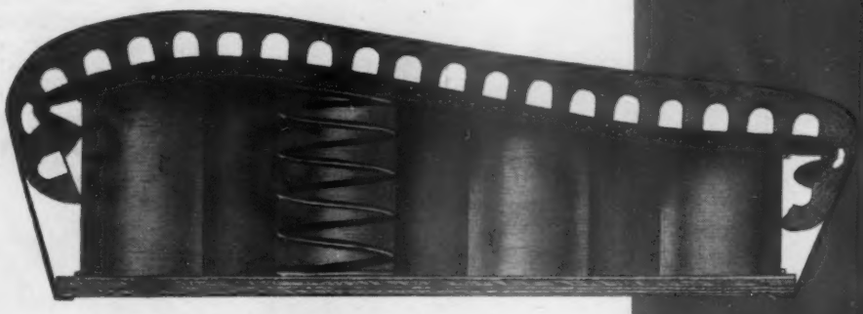
No other method of cushioning can ever equal the buoyant action of Travel Comfort Cushions, which combine superior spring constructions with types of cushion top-pads most suitable for each specific use.

Travel Comfort Cushions are carefully engineered for each job they are to perform. Travel Comfort Cushions for one particular task may not be recommended for a different application.

Because they are so carefully designed and produced under strict supervision, with the highest grade of materials obtainable.



You can have any type of top-pads you want on your Travel Comfort Cushions: Curled hair, rubberized hair, vegetable fibres, synthetic rubber, natural and synthetic rubber combinations and numerous other filler materials.



TRAVEL COMFORT CUSHIONS* are

Fully Guaranteed

—to give maximum comfort and trouble-free service. They are being specified for seating by buyers for leading rail, bus and transit systems. May we explain to you, fully?

• Cool Comfort
• Floating Comfort
• Permanently Beautiful

*Trade Mark

TRAVEL COMFORT CUSHIONS *Ideal for* Train or Plane, For Bus or Truck, For Transit Cars or Cabs

McINERNEY SPRING AND WIRE COMPANY

Factories: Grand Rapids, Michigan, and Passaic, New Jersey
SALES OFFICES: 661 Godfrey Ave., S. W., Telephone 6-1481, GRAND RAPIDS
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DESIGNED for TOMORROW

... Dixie's Newest and Smartest Drinking Cup Dispenser is

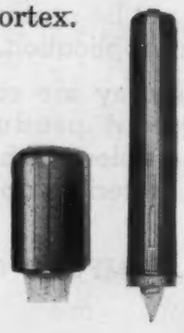
AVAILABLE TODAY!

DIXIE'S new sunken recessed type metal dispenser is as trimly smart and modern as tomorrow's streamliners. Its beautiful, lustrous, satin-chrome finish belies the sturdy construction demanded by the years of heavy service for which it is designed. Pull type with no moving parts; dispenses cups individually; fits flush in the bulkhead; easy to refill; readily adaptable for different size cups—Dixie or Vortex.

(Above:) Note the clear plastic window which visibly indicates the need for refills.

(Right:) Typical installation emphasizes flush construction and sleek, streamlined beauty.

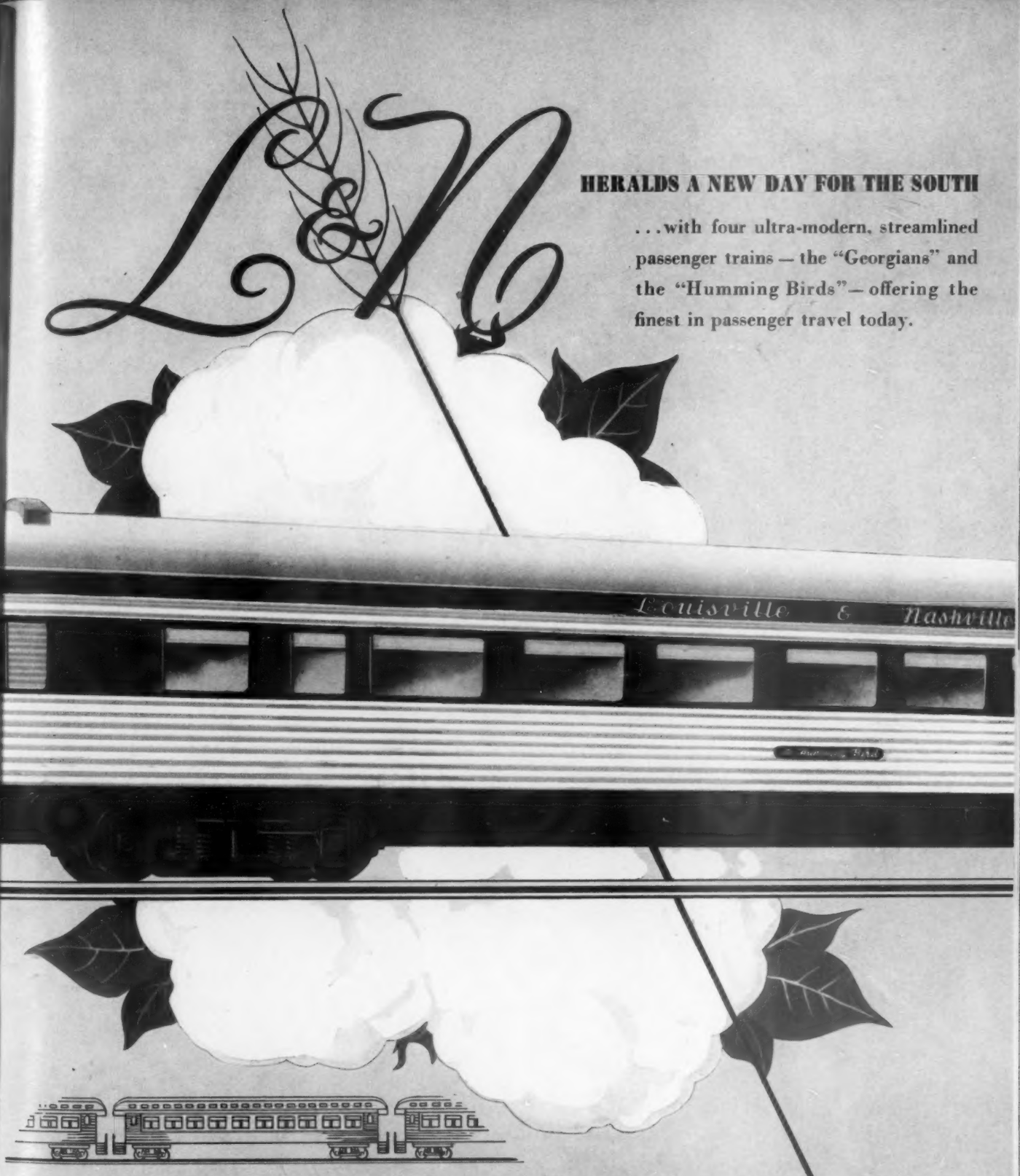
Other models also available—including the new small dispenser for use in roomettes and compartments. Make your service 100% modern with the finest drinking cup equipment available—Dixie and Vortex cups and dispensers. Write Dixie Cup Company, Railroad Department, Easton, Pa.



DIXIE CUPS

AND VORTEX CUPS

STANDARD IN RAILROAD SERVICE FOR OVER 30 YEARS



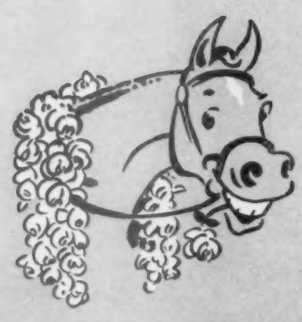
HERALDS A NEW DAY FOR THE SOUTH

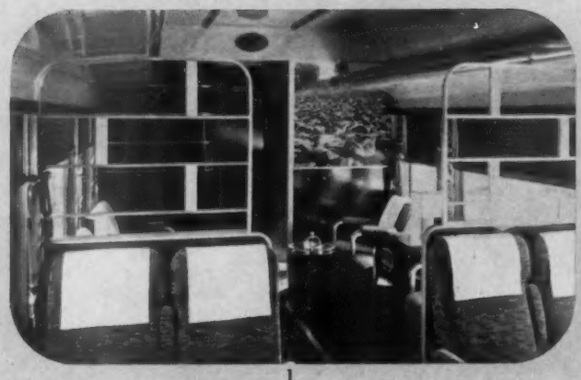
. . . with four ultra-modern, streamlined passenger trains — the "Georgians" and the "Humming Birds" — offering the finest in passenger travel today.

In 1913, A.C.F.-built passenger cars were considered the finest of their day on the L & N.

A.C.F.

FIRST of FOUR L&





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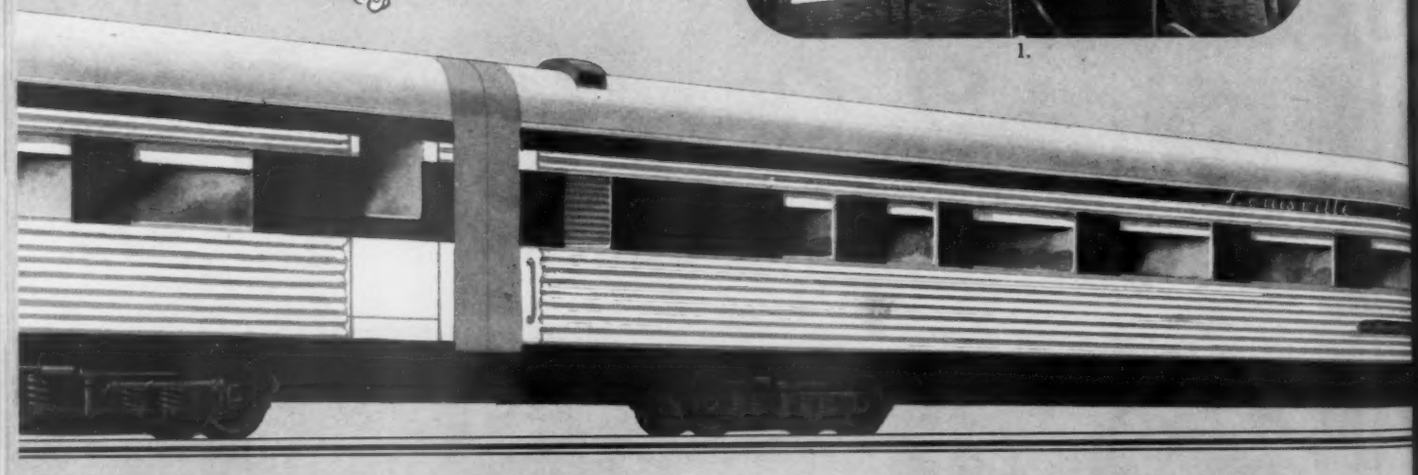

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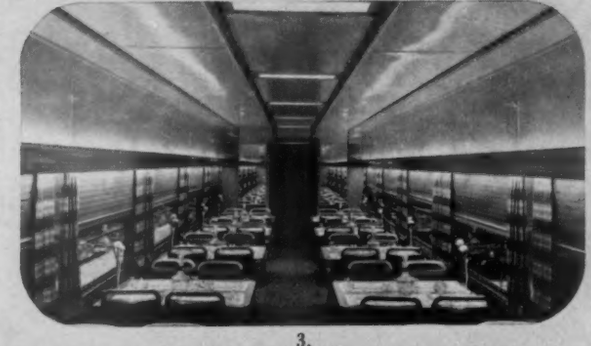

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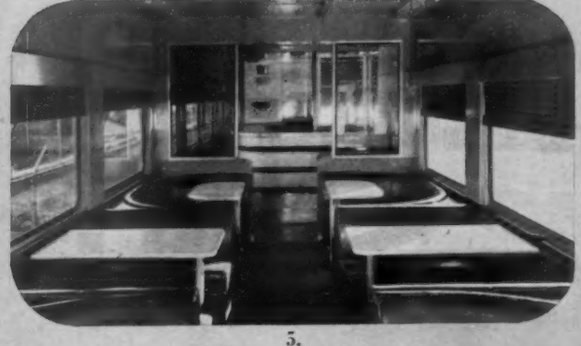
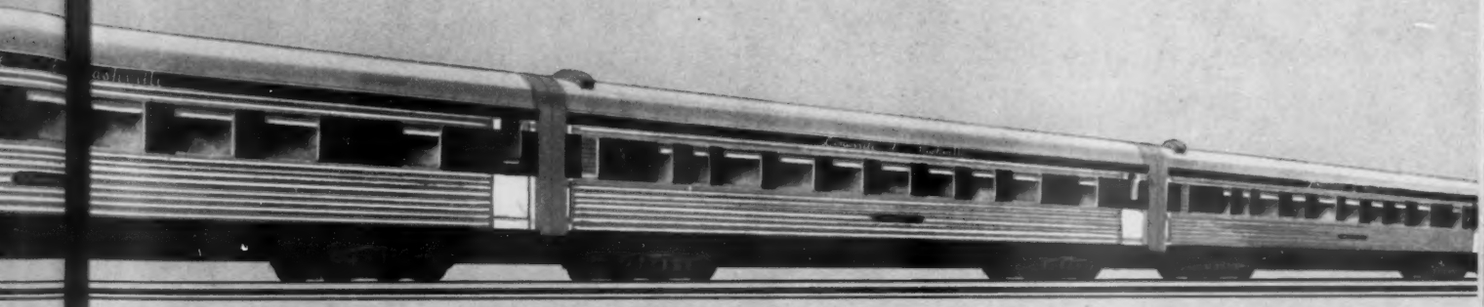


5.

& N STREAMLINERS

Travellers through the South will appreciate the quiet, conservative taste throughout this modern-styled train. Fluorescent lighting and soft color schemes—enhanced by bright aluminum trim—create a roomy, cheerful atmosphere. Passenger appeal is further enticed through pleasing murals in keeping with Kentucky's famous horse breeding and racing traditions. Air conditioning adds the final touch to passenger comfort. In fact, every detail has been meticulously designed to *sell* luxurious yet *profitable* transportation.

1. The COACH LOUNGE features a separate section equipped with radio for informal relaxation.



2. ALL COACHES contain conventional luggage racks in addition to storage space at the end of the car.

3. The DINING CAR, executed in soft neutral tones with mirrored walls, provides the proper atmosphere for meals.

4. The TAVERN LOUNGE features informal setting with individual chairs and settees—in fact all the appointments of a gracious club room.

5. The TAVERN section is decorated in brown antique leather with booths and tables for "snacks" and recreation.

A.C.F. CAR BUILDERS TO AMERICA'S RAILROADS

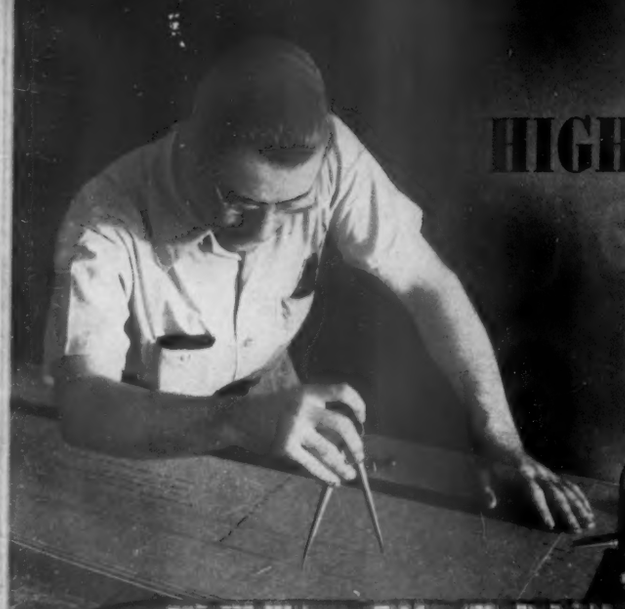
American Car and Foundry Co.

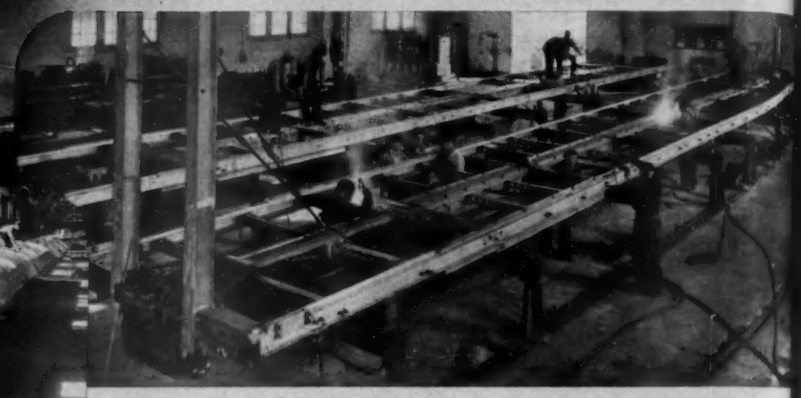
"Quality and Vision in Railroad Transportation"

NEW YORK
CHICAGO
ST. LOUIS
CLEVELAND
WASHINGTON
PHILADELPHIA
PITTSBURGH
SAN FRANCISCO

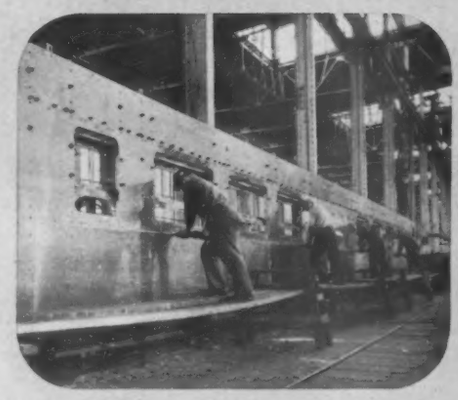
HIGHLIGHTS IN CONSTRUCTION

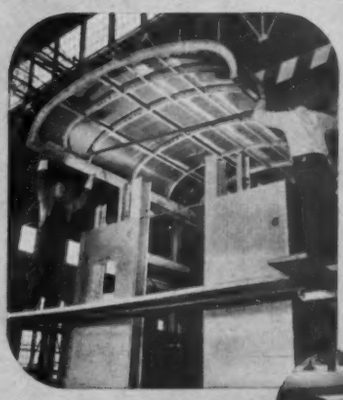
Building a modern streamliner requires careful planning. Template making is the first operation in the shop, after the blue print is received from the engineering department.

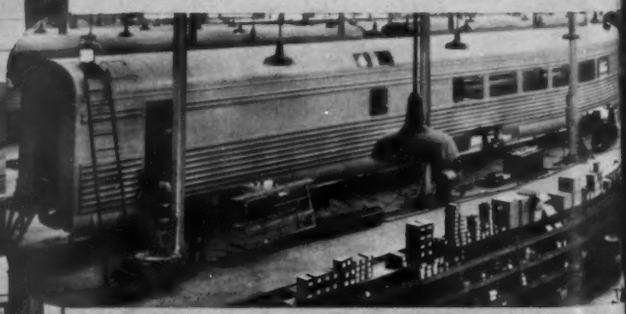




1. Fabricated underframe parts are assembled on jigs, by welding and riveting. This is the "foundation" of a modern streamliner.
2. Production tempo is speeded by prefabrication. Each roof is carefully assembled on jigs.
3. Side frame section is assembled with fitting bolts, and then riveted permanently.
4. Here prefabricated roof is shown being lowered into place on side and end walls.
5. Application of lower or "false" floor to underframe.
6. Interior of passenger car finishing shop, where inside finishing is done. Here the colorful decorations, murals, etc., are applied. Modern trend is to give each car its own individuality.







a.c.f.

CAR BUILDERS TO AMERICA'S RAILROADS

The Humming Bird · L&N · The Georgian

IN THE NEW L & N STREAMLINERS

The Humming Bird and The Georgian, two new Louisville & Nashville streamlined trains, are the kind that make railroad trips an alluring, colorful adventure for all of us, old and young.

They're ultra-modern jobs, sleek and attractive from the quiet locomotives to the tavern cars at the rear. Sturdy and durable, too, beneath that beauty.

One thing that helps contribute to their sturdiness is the use of Bethlehem axles. These axles are of strong, tough forged steel and were made in a plant with every modern facility. Maintenance crews will best appreciate the fine workmanship that went into them.

Bethlehem is happy to be represented in these Louisville & Nashville trains, which incorporate so many postwar advances.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

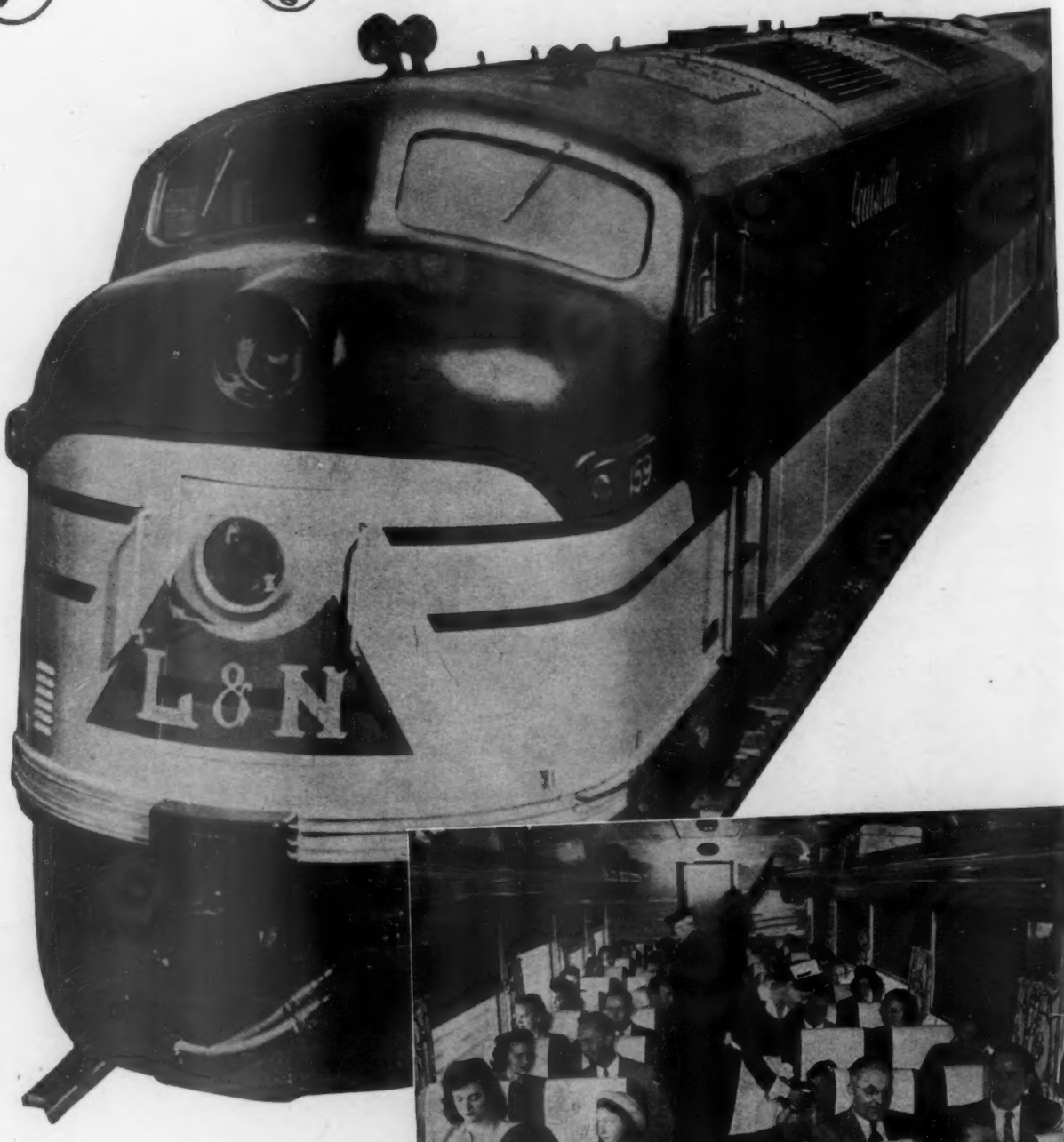
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation

BETHLEHEM STEEL

BETHLEHEM FORGED-STEEL AXLES

The Humming Bird L&N The Georgian

Merrily...they



The Humming Bird L&N The Georgian

roll along

"ARMCHAIR COMFORT" prevails on the new *Humming Bird* and *Georgian* of the Louisville and National Railroad. Even at the fast schedules on which these trains run, passengers gratefully relax and enjoy the safety and comfort... brought to them, in large measure, by Tightlock Couplers of *National* manufacture.

Thus, another progressive railroad takes a forward step. *National* is proud of being a partner of this modern enterprise to hold and attract passenger revenue.

N M&S Co

ESTABLISHED 1868

NATIONAL

MALLEABLE and STEEL CASTINGS CO.

Cleveland, Ohio

SALES OFFICES: Cleveland, Chicago, New York, Philadelphia, Richmond, San Francisco, St. Louis

WORKS: Cleveland, Chicago, Indianapolis, Melrose Park, Ill., Sharon, Pa.

L & N

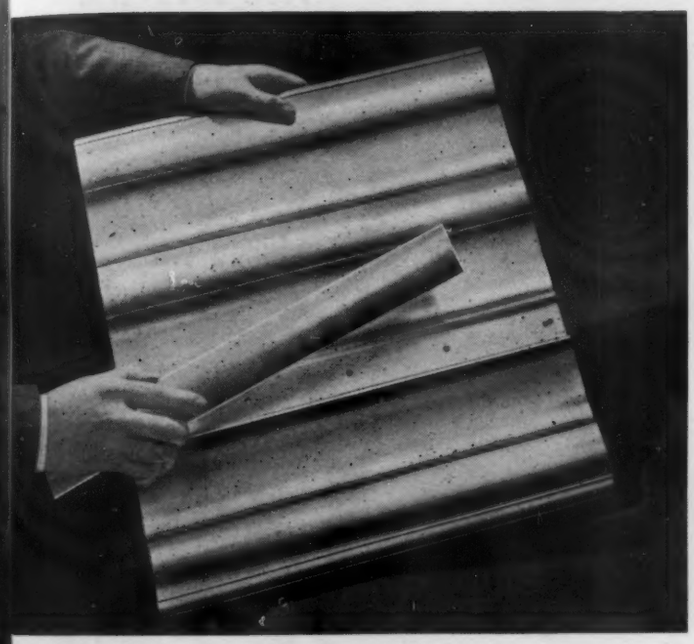
"BUILT PRINCIPALLY OF AL

JEWEL-LIKE BEAUTY AND BRUTE STRENGTH are combined in the twenty-eight new cars for the L & N "Humming Bird" and "Georgian" streamlined coach trains, built by American Car & Foundry. Alcoa Aluminum Alloys provide both these qualities, with a weight saving of *34 percent* over cars of conventional heavy metal construction.

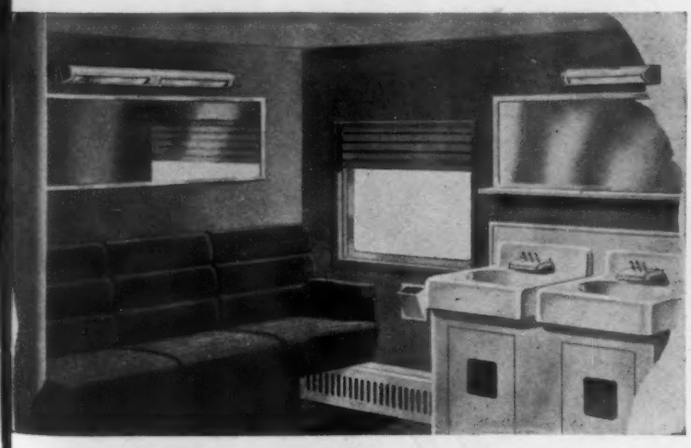
As these beautiful new trains swing through the Southland, their passengers will enjoy the protection of massive aluminum alloy sections in the car body framing, as well as in center sills, side sills, and floor beams. Along the L & N right-of-way, Southerners will thrill to the beauty of the royal blue and bright aluminum finish; the lasting sparkle of these modern cars—a new milestone in the progress of American railroading! ALUMINUM COMPANY OF AMERICA, 2178 Gulf Building, Pittsburgh 19, Pa. Sales offices in principal cities.

Modern Railroading Calls for MAXIMUM Economies

"ALCOA ALUMINUM"



ALCOA ALUMINUM EXTRUSIONS in bright, lasting aluminum finish provide continuous horizontal panels above and below windows. Horizontal lines of rivets in side frame construction are concealed by bright-finish, snap-in moldings.



ALUMINUM is widely used in the spacious washrooms at the ends of each car. Modern appointments of these washrooms will keep their fine appearance, without painting or other attention.

EACH CAR is a complete unit, meeting all A.A.R. interchange requirements. Note detail of side panels, as well as modern steps of which aluminum constitutes an important part.

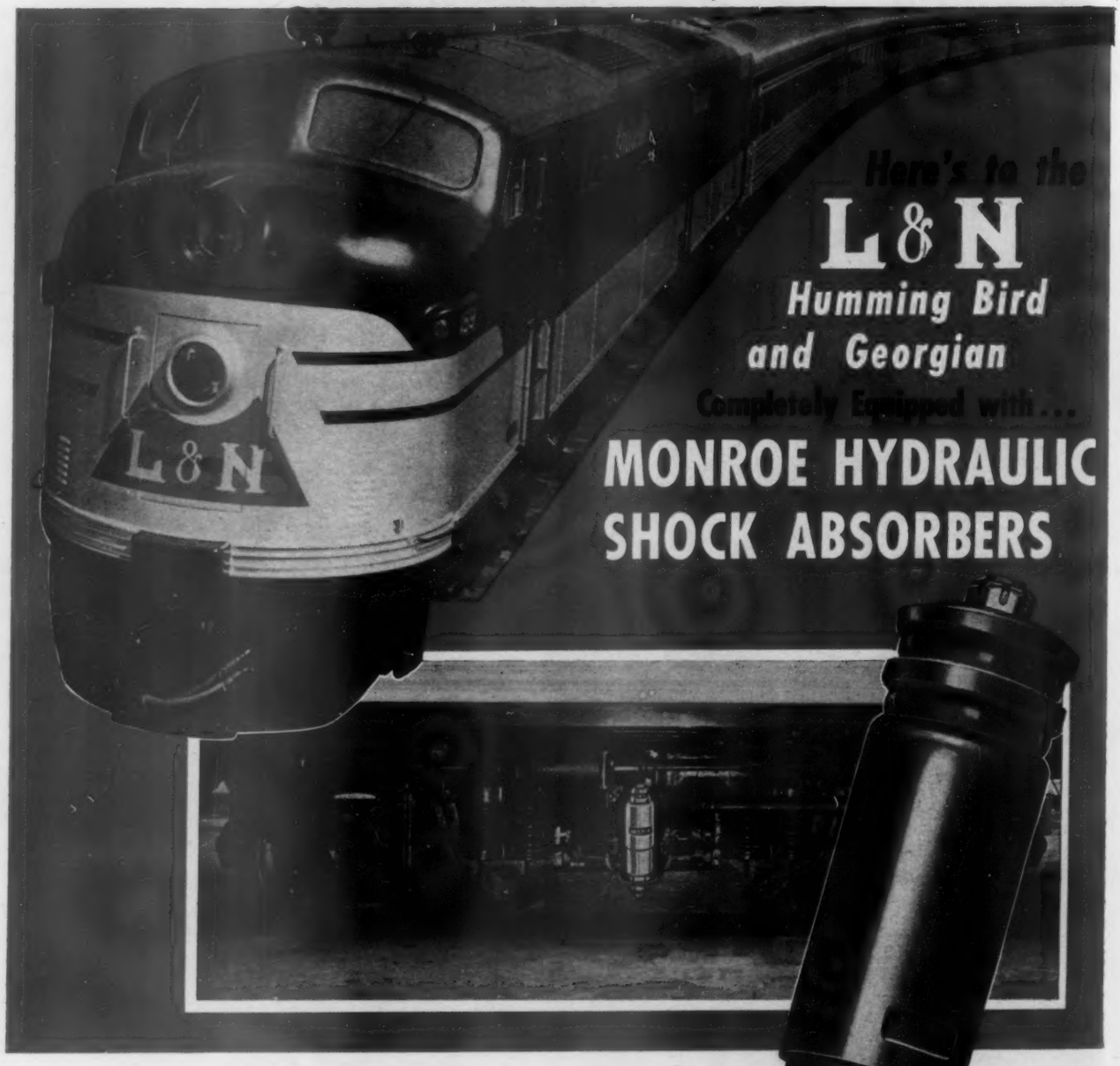
RECLINING, REVOLVING seats with Alcoa Aluminum frames and pedestals add to the beauty and light weight of the trains. Aluminum windows are designed for full vision, low maintenance cost.

LIGHTING is recessed into ceiling, flanked on either side by aluminum air diffusers with a satiny finish. The interior color schemes of red, brown, and white are skillfully accented by the brightness of aluminum.

ALCOA FIRST IN **ALUMINUM**

ALCOA ALUMINUM

The Humming Bird L&N The Georgian



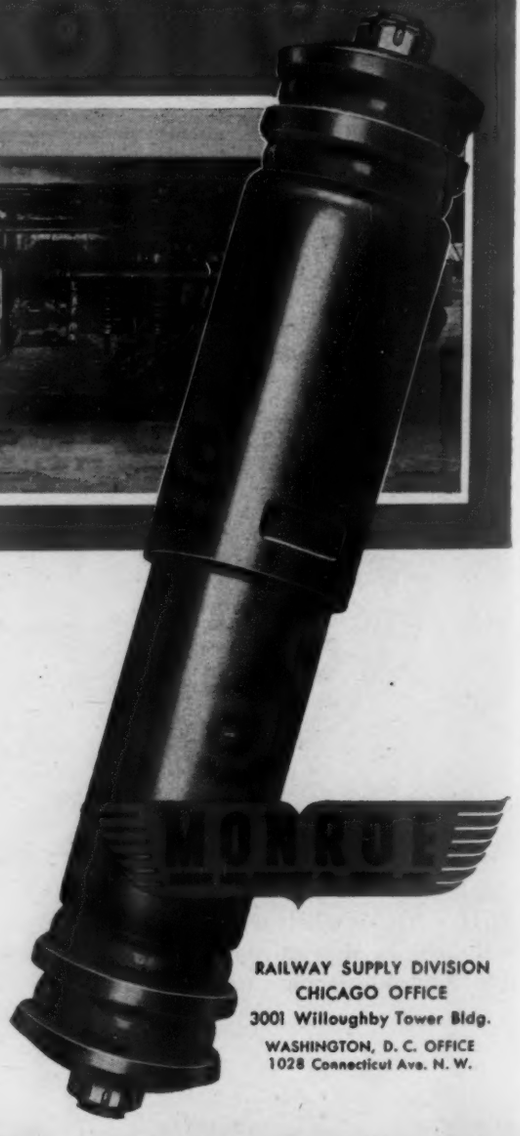
Here's to the

L & N

Humming Bird and Georgian

Completely Equipped with . . .

MONROE HYDRAULIC SHOCK ABSORBERS



Congratulations to the Louisville and Nashville Railroad for *twice* doubling in aluminum—*twice* doubling in Diesel streamliners—*twice* doubling in Monroe *Hydraulic* Shock Absorbers. Twin "Humming Birds" and "Georgians", because of all three L & N innovations, now are operating on the fastest schedules ever recorded between Cincinnati and New Orleans and St. Louis and Atlanta, respectively!

Through the use of aluminum alloys rather than steel, each car is 34 per cent lighter than ever before. And here's where the American Car and Foundry Company and the L & N put well justified faith in Monroe's 30-year engineering experience taking the jars and jolts out of riding. Every truck of every car is equipped with both Vertical and Lateral Monroe Direct-Double-Action Shocks.

Both builder and owner wanted something besides speed and beauty in these modern streamliners. And passengers will fully attest to the smooth comfort, the extra safety provided by shock absorbers engineered for the job.

RAILWAY SUPPLY DIVISION
CHICAGO OFFICE
3001 Willoughby Tower Bldg.
WASHINGTON, D. C. OFFICE
1028 Connecticut Ave. N. W.

Write or Wire...

MONROE AUTO EQUIPMENT CO., MONROE, MICH.

Still another STREAMLINER offers more comfort "coming and going"

with

ANEMOSTAT

draftless

AIR-DIFFUSERS

Congratulations to ACF, car builder, and to the Louisville and Nashville R. R. on the "Humming Bird" and other deluxe coaches comprising four new trains — and more to come. Congratulations to the L & N travelers, too — now enjoying the very finest in coach accommodations!

High upon the list of luxuries are the ANEMOSTAT *draftless* air-diffusers in the ladies' powder-room and the men's smoking-room of each car. Here, via a ceiling ANEMOSTAT in the powder-room and wall ANEMOSTATS in the men's compartment, travelers are assured of ten changes of air per hour with an air movement of only twenty-five feet per minute at passenger occupancy level. Here, via *air-diffusion*, passengers will enjoy the comfort and healthful conditions of air-conditioning at its best—*without* drafts of hot or cold air, stuffy air pockets, or "stop and go" air circulation.

ANEMOSTATS can be installed in any car equipped for air-conditioning. They have no moving parts to wear out, entail no maintenance expenses.

The ANEMOSTAT Engineering Service is prepared to co-operate with railroad engineering departments and car builders on their many specialized problems of air-diffusion. The travel-promoting benefits of *draftless* air-diffusion are well worthwhile. A meeting can be arranged at your convenience, without obligation.

Write for complete details.

ANEMOSTAT

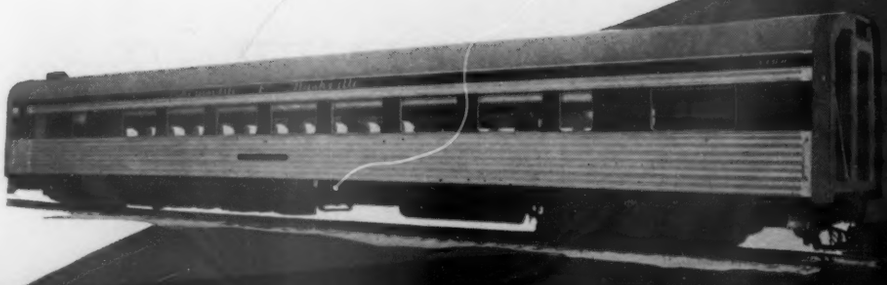
REG. U. S. PAT. OFF.

ANEMOSTAT CORPORATION OF AMERICA

10 East 39th Street, New York 16, N. Y.

REPRESENTATIVES IN PRINCIPAL CITIES

"NO AIR-CONDITIONING SYSTEM IS BETTER THAN ITS AIR-DISTRIBUTION"



Built by American Car & Foundry Co.

FOR THE L. & N.
4 NEW STREAMLINERS EQUIPPED WITH COMMONWEALTH UNDERFRAME AND TRUCK PRODUCTS

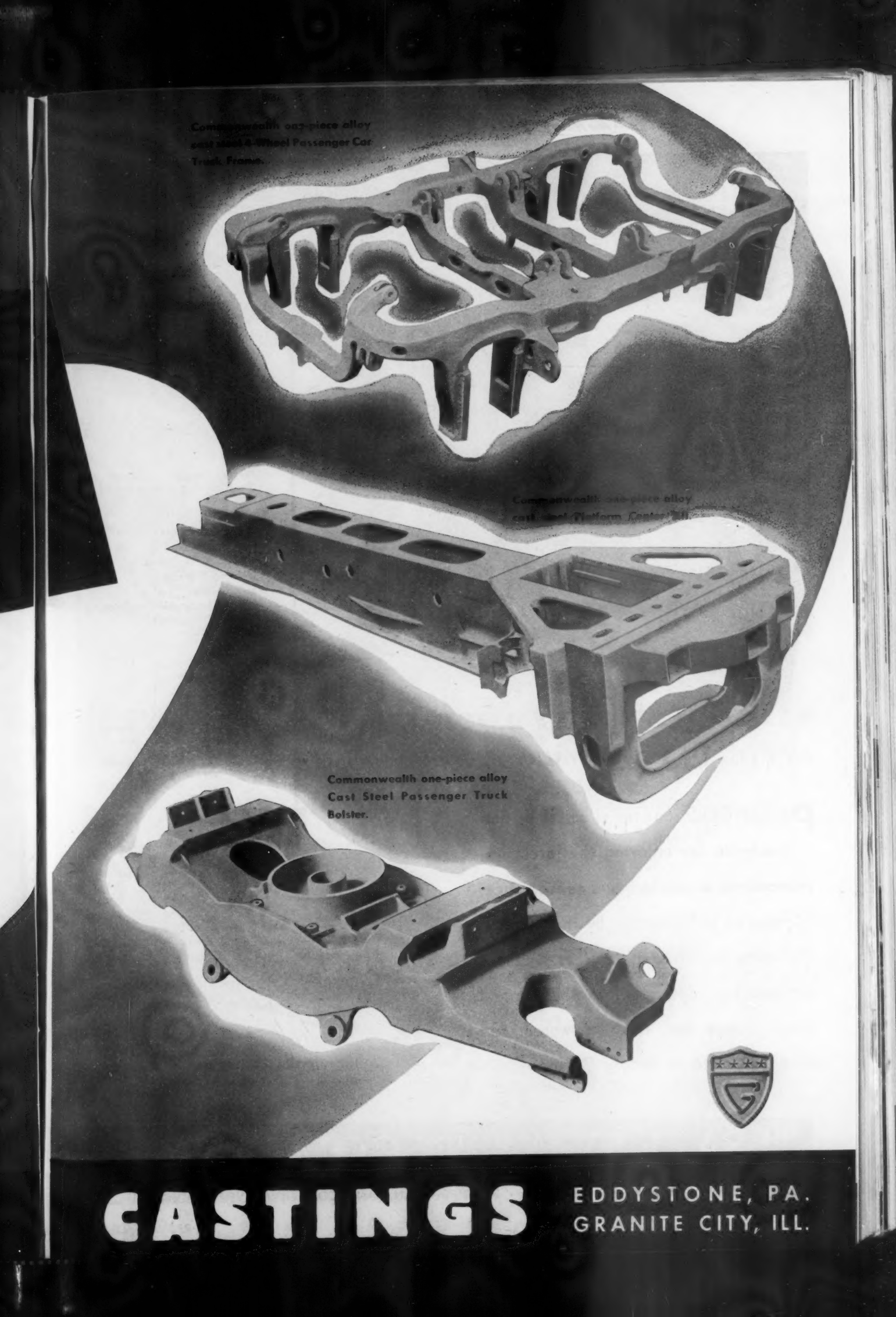
THE two "Georgians" and two "Humming Birds", new, modern, seven-car Streamlined Trains of the L. & N. Railroad, are assured smooth and safe riding with COMMONWEALTH Four-Wheel Passenger Car Trucks.

This modern truck design includes a COMMONWEALTH one-piece, Truck Frame and Bolster of alloy cast steel and Bolster Roll Stabilizer Assembly—providing great strength with light weight, unusually long service life and a minimum of maintenance.

COMMONWEALTH One-Piece Platform Center Sill Castings are an important part of the underframe of these modern light weight passenger cars. They provide the simplest, strongest and best construction; made of alloy cast steel—heat treated—achieving greater strength without increasing weight.

For smoother, safer passenger train service at the high speeds of today and tomorrow, specify these COMMONWEALTH Products.

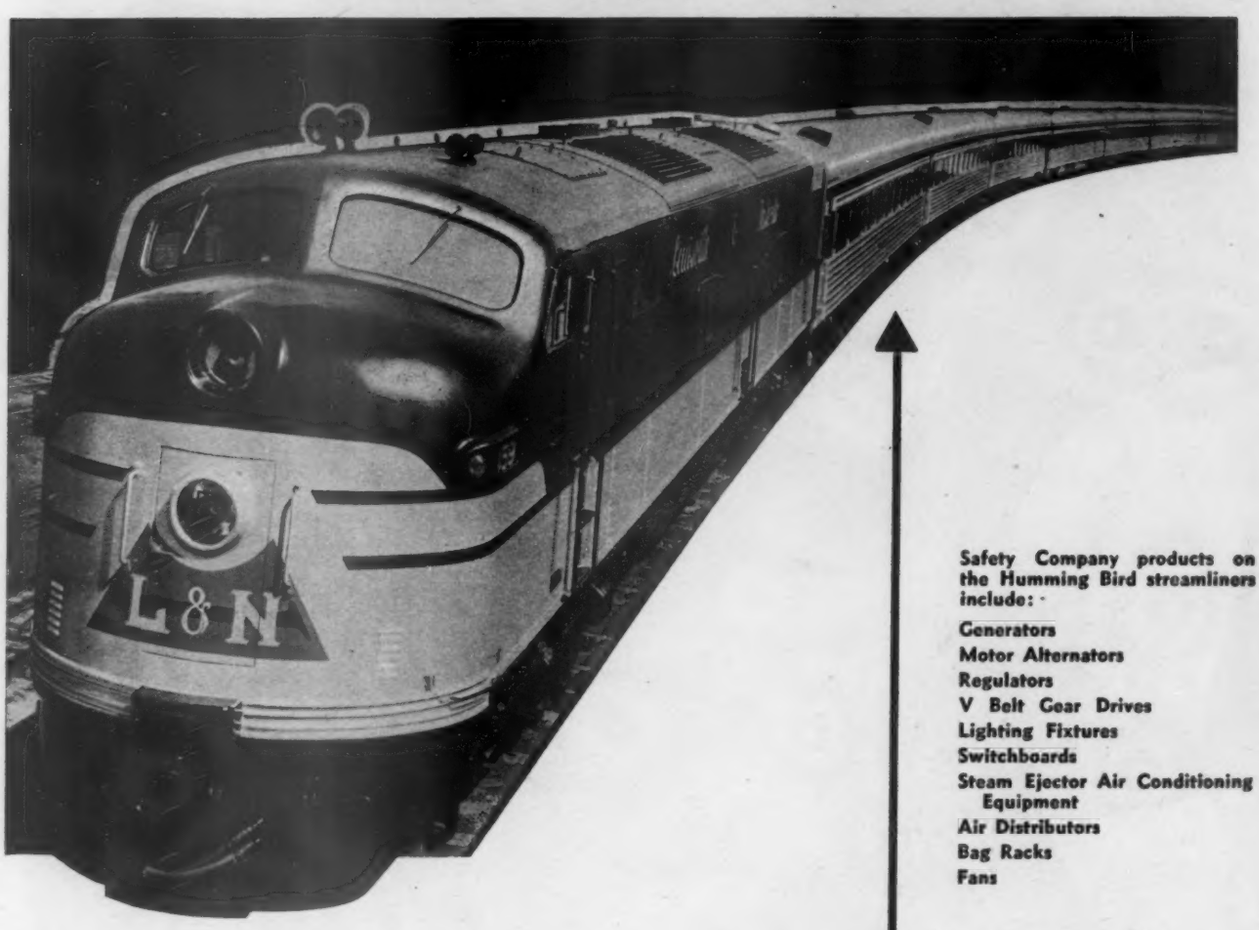
GENERAL STEEL



CASTINGS

EDDYSTONE, PA.
GRANITE CITY, ILL.

The Humming Bird L&N The Georgian



SAFETY COMPANY EQUIPMENT
on First A.C.F. Postwar Streamliners

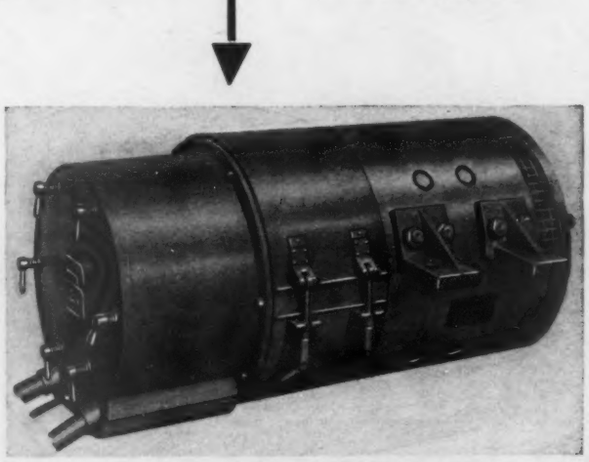
Safety Company products on the Humming Bird streamliners include:

- **Generators**
- **Motor Alternators**
- **Regulators**
- **V Belt Gear Drives**
- **Lighting Fixtures**
- **Switchboards**
- **Steam Ejector Air Conditioning Equipment**
- **Air Distributors**
- **Bag Racks**
- **Fans**

Avoid divided responsibility! For complete car lighting and power equipment—

STANDARDIZE WITH SAFETY

PASSENGERS on the Louisville and Nashville are enjoying the latest improvements in comfort and convenience, introduced in November by the L. & N. Humming Bird streamliner fleet. Passenger coaches, diner, tavern lounge and coach-lounge are 100% powered and air-conditioned by Safety Company.

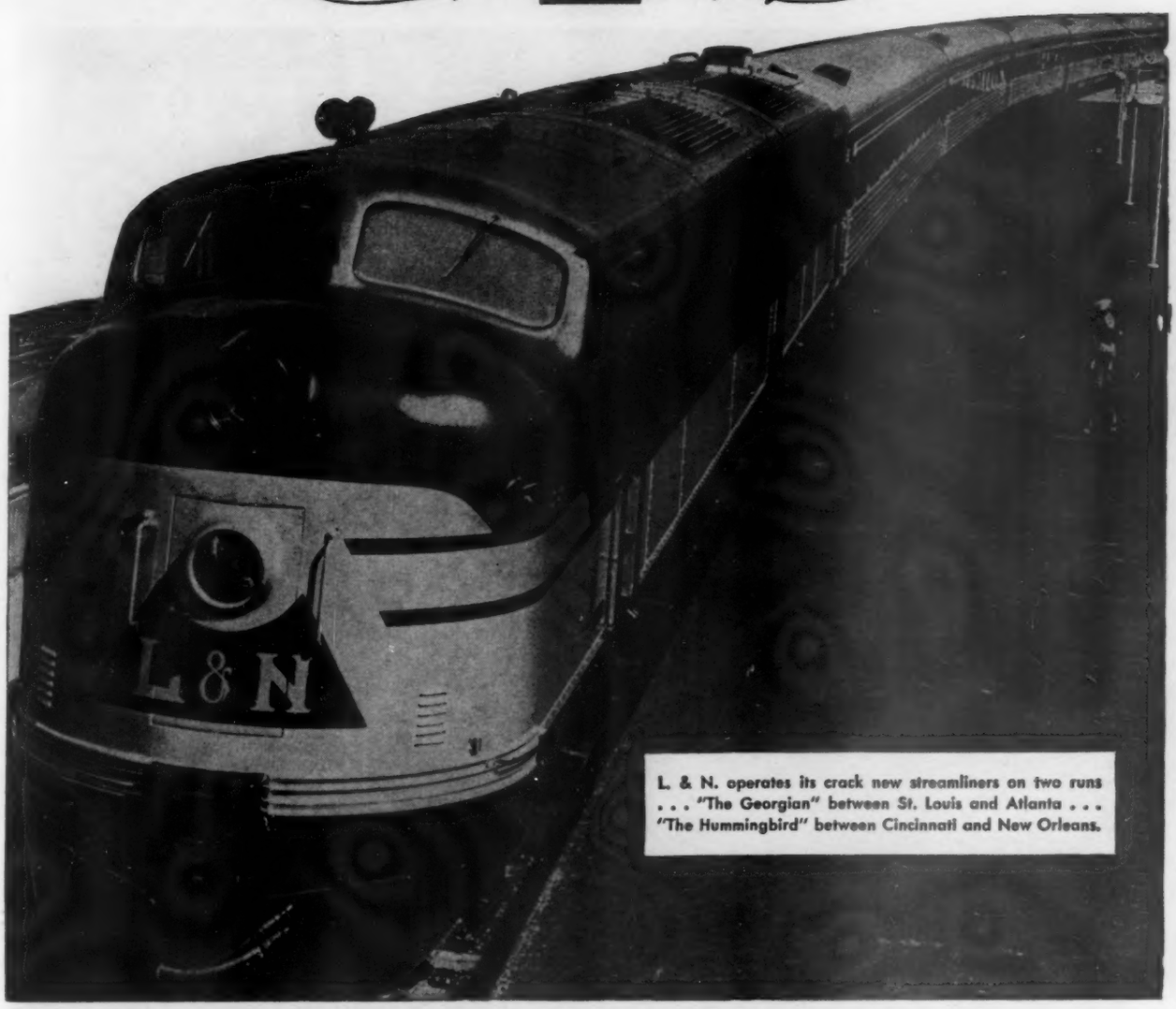


Safety 20 KW GENERATOR TYPE GL20910 in use on the new L. & N. Humming Birds.

THE SAFETY CAR HEATING AND LIGHTING COMPANY INC.

NEW YORK · CHICAGO · PHILADELPHIA · ST. LOUIS · SAN FRANCISCO · NEW HAVEN · MONTREAL

The Hummingbird L&N The Georgian



L. & N. operates its crack new streamliners on two runs . . . "The Georgian" between St. Louis and Atlanta . . . "The Hummingbird" between Cincinnati and New Orleans.

Texaco Salutes L&N's New Streamliners

The four new Diesel streamliners just put in service by the progressive Louisville and Nashville Railroad are lubricated with *Texaco.*

As with leading railroads everywhere, the L. & N.'s choice of Texaco is based on proved-in-service results. That is why —

More Diesel hp. on main line freight and passenger locomotives in the U. S. is lubricated with Texaco Oils than with any other brand!

The Texas Company, *Railway Sales Division,* 135 East 42nd Street, New York 17, N. Y.

TEXACO

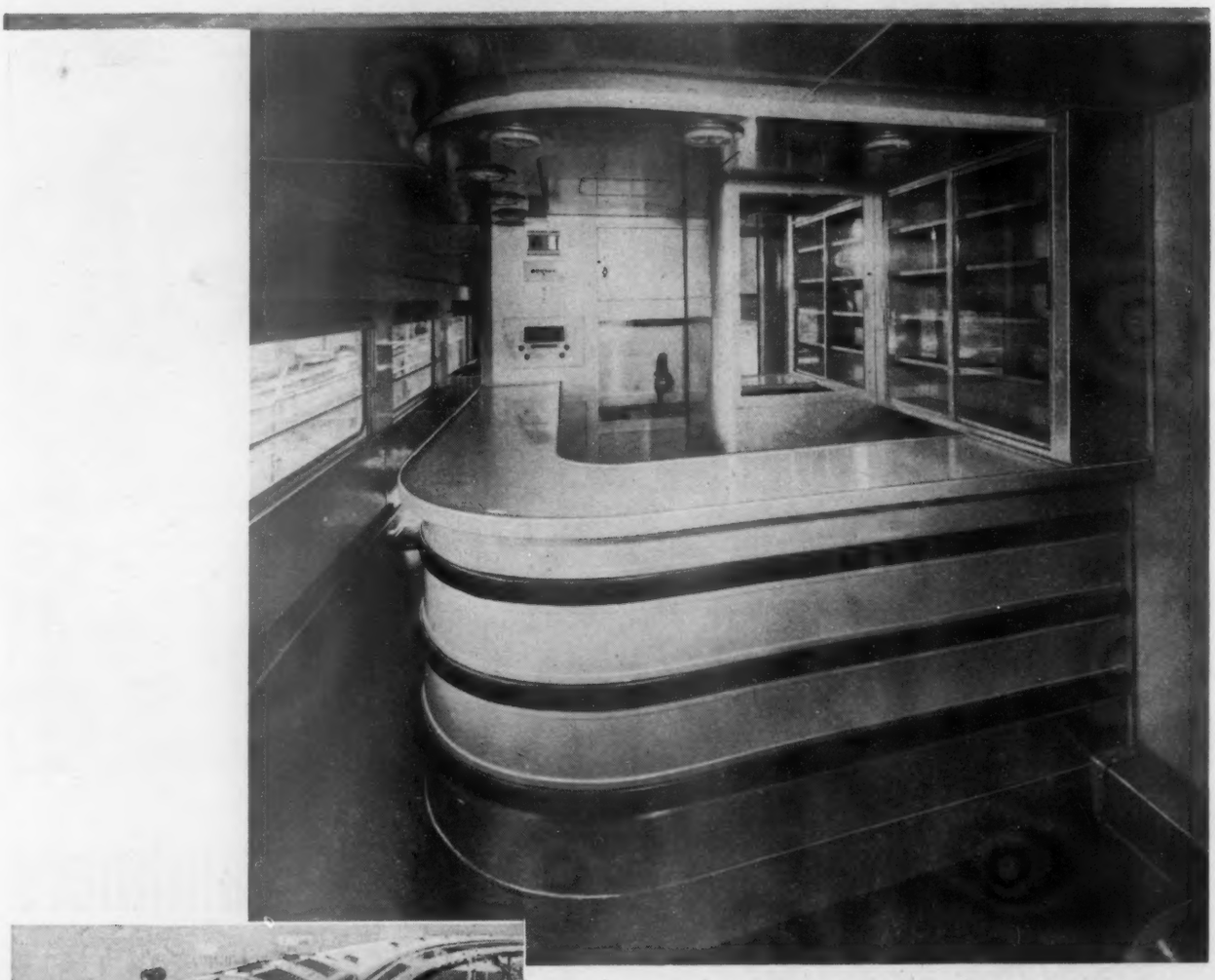
TEXACO OILS
FOR ALL DIESEL ENGINES

Tune in . . . TEXACO STAR THEATRE presents the NEW EDDIE BRACKEN SHOW every Sunday night, Metropolitan Opera broadcasts every Saturday afternoon.

The Humming Bird L&N The Georgian

Colonna BARS

on "The Humming Bird" – "The Georgian"



WITH traditional "Southern Hospitality" the Louisville and Nashville provides its patrons with the finest surroundings for the serving of food and beverages.

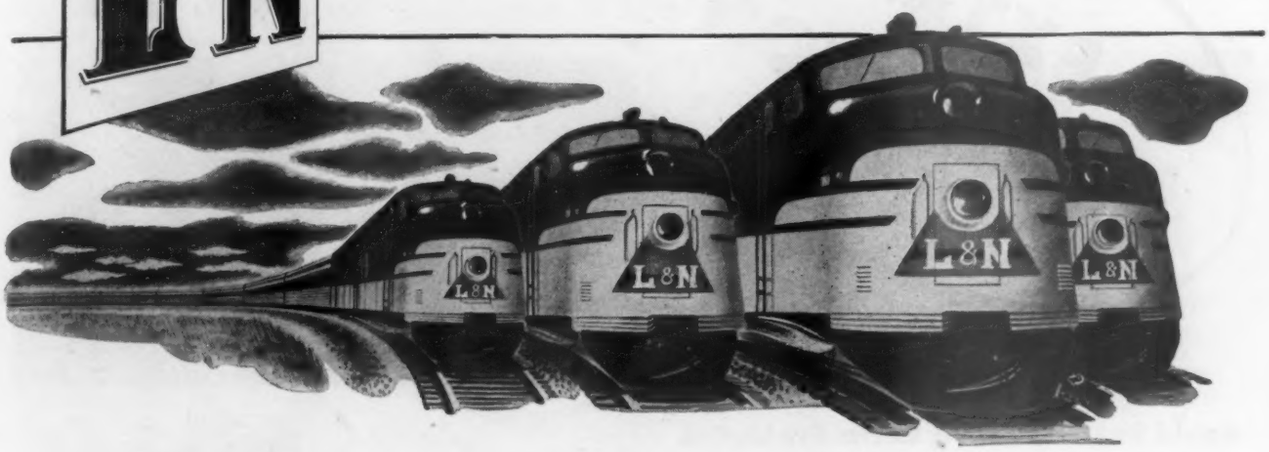
In keeping with the modern appointments of these new trains, it is very significant that the imposing-looking bar was supplied by Angelo Colonna, — which is one of many custom-built installations now in progress for the DeLuxe Trains of Tomorrow.

ANGELO COLONNA

PHILADELPHIA, PA.

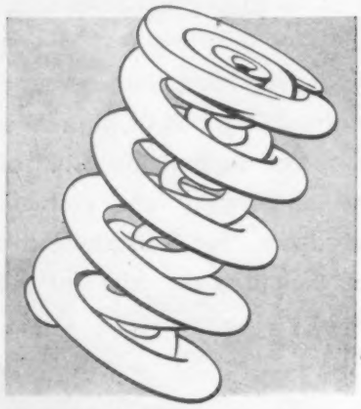
The Hummingbird L&N The Georgian

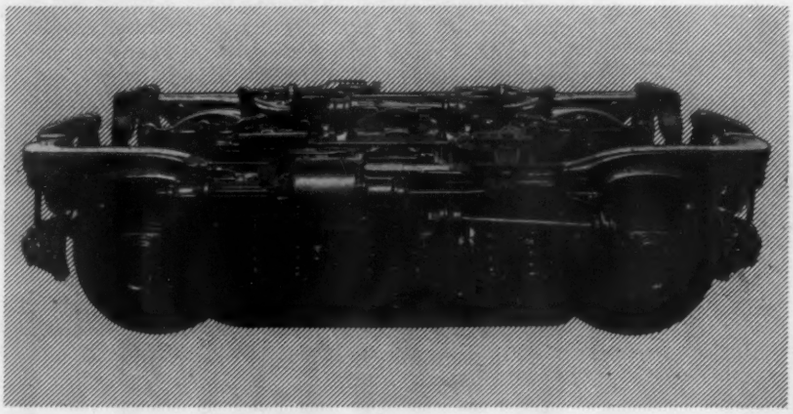
L&N new streamliners combine speed and comfort



Crucible Hi-Grade coil springs cushion shock, snub ride play in all 28 cars

THE LOUISVILLE & NASHVILLE knew from experience that Crucible's Hi-Grade coil springs of fine silico-manganese alloy steel would give them riding qualities to match the speed and luxury of their new trains —"The Hummingbird" and "The Georgian." Specially built to combine with the latest truck designs suited for lightweight, high-speed rolling stock, the Crucible Hi-Grade coil spring contributes substantially to smooth operation, low maintenance cost, and passenger comfort.





Crucible Coil Springs on Louisville & Nashville Streamliners

The springs on the trucks of "The Hummingbird" and "The Georgian" are of silico-manganese steel. All springs (bolster as well as equalizer) are coil springs, of the long-travel, soft-cushioning type. They are specially designed for high-speed, easy riding service in the trucks of today's lightweight, streamlined trains.

CRUCIBLE STEEL COMPANY of America

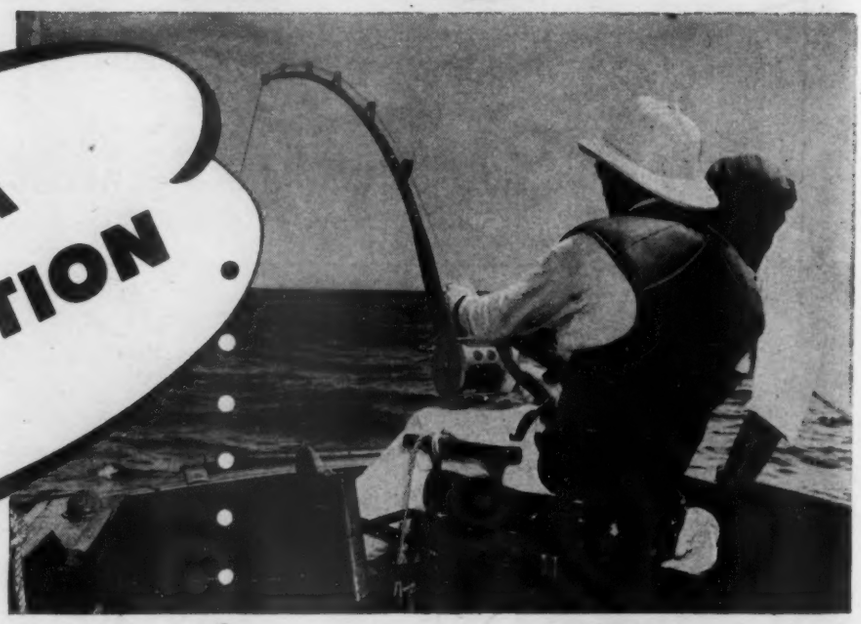
"FULL-RANGE" QUALITY STEELS for INDUSTRY

HIGH SPEED • TOOL • STAINLESS • ALLOY • MACHINERY SPECIAL PURPOSE STEELS

Chrysler Bldg., 405 Lexington Ave., New York 17, N.Y.

Branches, Warehouses and Distributors in Principal Cities
Consult Telephone Directory or Thomas' Register for Nearest Office

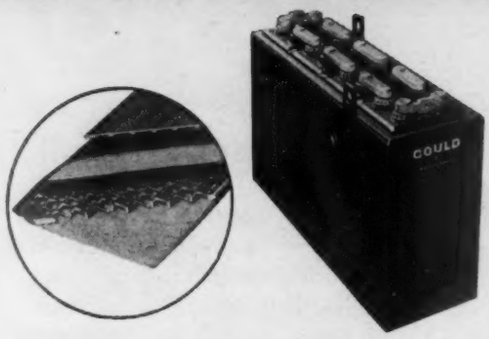
EXTRA PROTECTION



Gould Batteries Give Extra Protection

In Gould Kathanode Batteries all useful active material is retained in the grid

Just as deep sea fishermen wear a special harness to absorb the pull of big fish, so is Kathanode reinforced against the strain of high charging and discharging rates met in railway Diesel operations. For Kathanode this extra protection maintains capacity for the entire service life of the battery.



and here is the Reason why—

In Gould Kathanode each positive plate is faced with spun glass mats, held in place by a porous rubber envelope. This is the famous Kathanode Unit. It keeps the active material in place until it is entirely spent, where without this special construction the oxide would flake off before being spent, and settle to the bottom. Prove this yourself by comparing the sediment in a Gould battery with any other battery not having glass mats.

Get all the facts on Gould. Write Dept. 1512 for Catalog 700 on Gould Kathanode Glassklad Batteries for Diesel Locomotive Service.

MEMO
Superintendent, Transportation—
These Gould Kathanode Batteries surely are built to meet our tough Diesel starting jobs.
BATTERY INSPECTOR

GOULD KATHANODE BATTERIES

GOULD STORAGE BATTERY CORPORATION, Depew, N. Y. Service Centers: Atlanta • Boston • Buffalo • Chicago • Cincinnati • Cleveland Detroit • Kansas City • Los Angeles • New York • Philadelphia • Pittsburgh St. Louis • St. Paul • San Francisco • Seattle • Zanesville

"Last Words" in Passenger Comfort and Safety–

THE GEORGIAN
THE HUMMING BIRD

With their new Streamliners, *The Georgian* and *The Humming Bird,* L&N inaugurates the fastest regular runs ever scheduled between St. Louis-Atlanta and Cincinnati-New Orleans . . . speed made both comfortable and safe by *ability to stop*—quickly, smoothly, surely.

Like practically *all* Streamliners, cars of these two new ultra-modern passenger trains are equipped with Simplex Unit Cylinder Clasp Brakes. 250% braking power and high braking efficiency make *every* stop in well below distance limits. Dependability and low maintenance keep down operating costs.

On passenger cars or power units—on through runs or switching service—these light-weight, streamlined, smooth-stopping brakes permit the *safe,* fast movement that builds revenues. Our congratulations to L&N on the success of their program to give riders the *best* in transportation.

STREAMLINED, LIGHT-WEIGHT

SIMPLEX UNIT CYLINDER CLASP BRAKES

AMERICAN STEEL FOUNDRIES

MINT-MARK OF ⬡ FINE CAST STEEL

The Humming Bird L&N The Georgian

The HUMMING BIRD
The GEORGIAN
New Luxurious
L&N
Streamliners
UTILIZE
*FIBERGLAS INSULATION

The Humming Bird & The Georgian bring to America more brilliant new evidence of the post-war strides to greater railroading achievement. Beautifully and skillfully planned and executed in every detail, these new L & N Streamliners combine the latest in safety, comfort and luxury features with a new low in operating cost.

Contributing to the achievement of L & N is Fiberglas Insulation with its high thermal efficiency and accoustical value. Its pure glass fibers cannot burn—will not rot—and they offer no sustenance to vermin, rodents or insects. Fiberglas Insulation, particularly G-B Ultralite, is extremely lightweight: it will not settle or shake down—provides the ultimate in thermal and accoustical protection for the life of the car.

Thermal Insulation For Refrigerator Cars, Tank Cars, Passenger Cars and Locomotives:

*Reg. U. S. Patent Office By Owens-Corning Fiberglas Corp.

Fiberglas Is Sold To Railroads and Car Builders By*

G·B MFG. CO. Established 1898

GUSTIN-BACON MANUFACTURING CO.

KANSAS CITY 7, MISSOURI

New York Philadelphia Chicago Tulsa Houston Fort Worth San Francisco

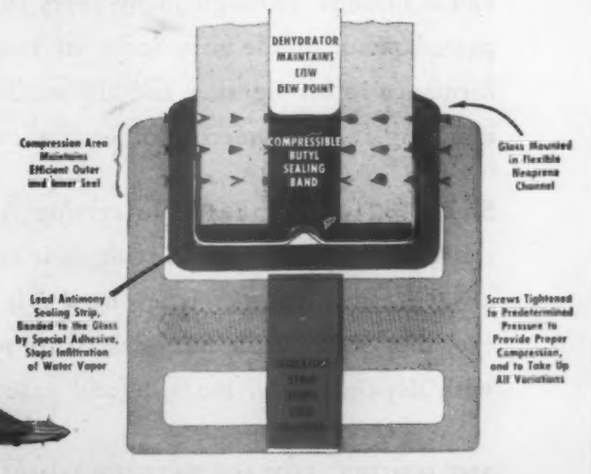
Vapor-Tight
DOUBLE SEALED
SASH

BY EDWARDS

New Vapor-Sealed Dehydrated Sash by Edwards for air conditioned cars in high speed, streamlined trains, is the last word in double glazed sash design. To passengers they bring windows of constant, crystal-clear visibility, regardless of weather, climate or altitude . . . to operators, units that are built to last for the life of the car with the absolute minimum of service.

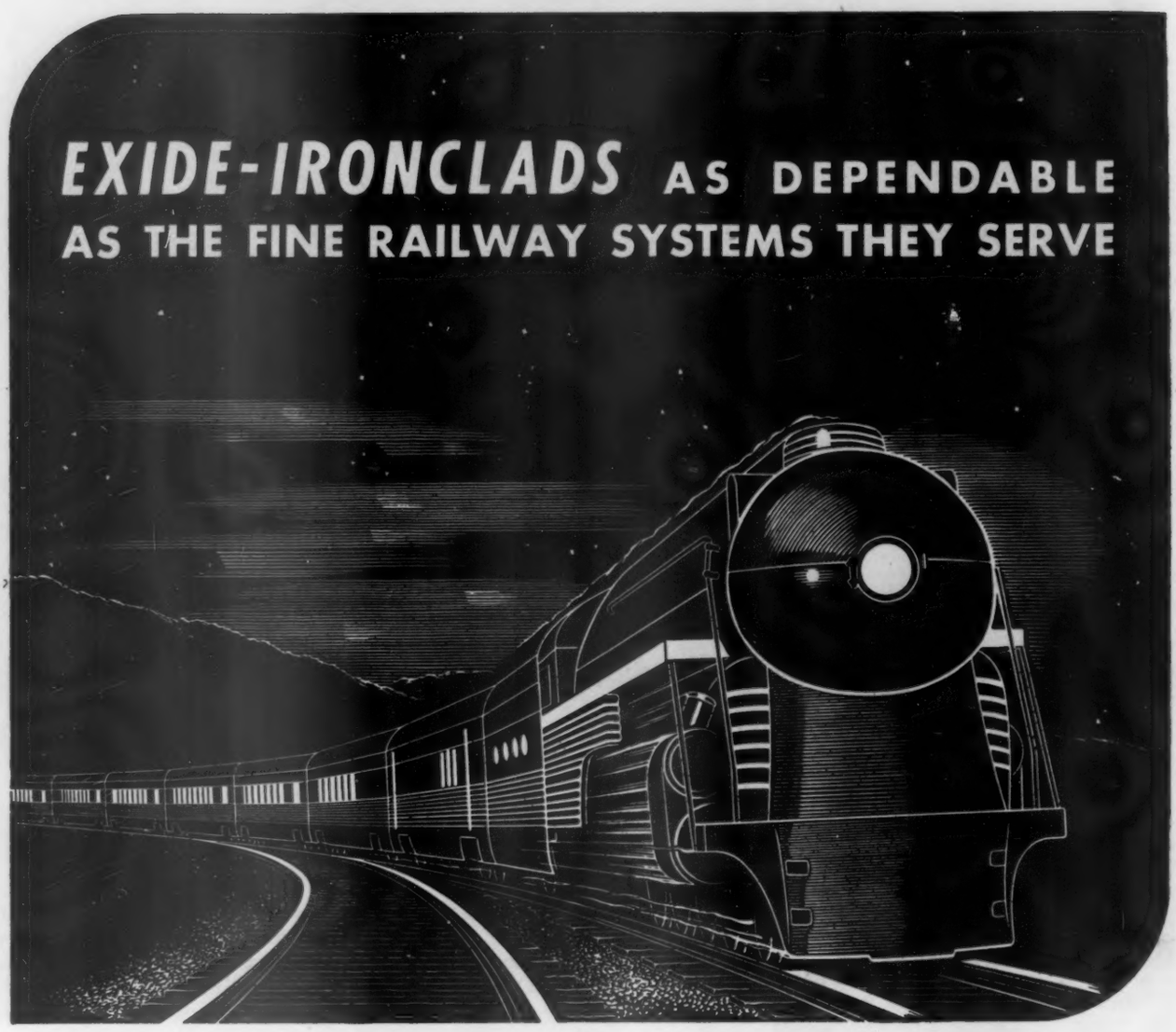
Before preparing sash specifications for new or renovated equipment, get the facts on the new Edwards Vapor-Sealed Unit. It's the best designed, most ruggedly built, most efficient sash ever offered to the railroads of America—and it's competitively priced!

The O. M. Edwards Company, Inc., Syracuse, N. Y.


DEHYDRATOR MAINTAINS LOW DEW POINT
COMPRESSIBLE BUTYL SEALING BAND
Compression Area Maintains Efficient Outer and Inner Seal
Glass Mounted in Flexible Neoprene Channel
Lead Antimony Sealing Strip, Bonded to the Glass by Special Adhesive, Stops Infiltration of Water Vapor
Screws Tightened to Predetermined Pressure to Provide Proper Compression, and to Take Up All Variations

SASH FOR EVERY TYPE OF TRANSPORTATION — ON LAND, ON THE SEAS, IN THE AIR

EXIDE-IRONCLADS AS DEPENDABLE AS THE FINE RAILWAY SYSTEMS THEY SERVE

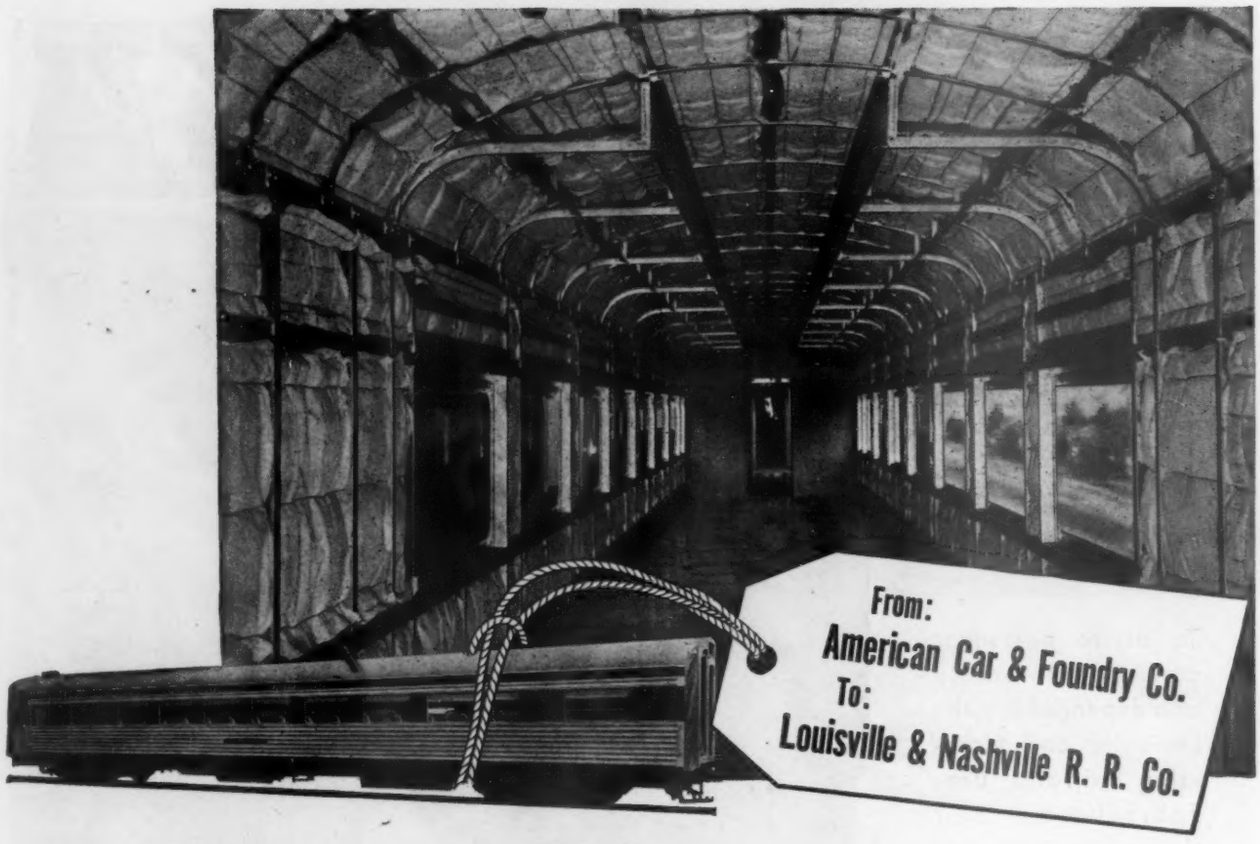


TO thousands of railroad men, in all departments of operation, the name Exide signifies maximum efficiency and economy. Through many years they have seen repeated proof of the superiority of Exide-Ironclad performance in car lighting and air-conditioning in Diesel cranking and in numerous other applications.

Since 1891, Exide has been serving America's leading railroads . . . keeping pace with their rapid progress . . . always ready to meet each new need as it arose. And wherever they serve, Exide Batteries assure peak performance with dependability, long-life and ease of maintenance.

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

The Humming Bird L&N The Georgian



Comfort sealed in..
with Johns-Manville STONEFELT

WHEN the Louisville and Nashville ordered these coaches from ACF . . . they provided *sealed-in* comfort with strong, lightweight blankets of Stonefelt between the streamlined exteriors and modern interiors.

They chose Stonefelt because this dependable Johns-Manville Insulation is designed to muffle sound . . . resist heat transfer . . . assure even temperatures that provide the Nth degree of passenger comfort. Developed in the J-M Research Laboratory expressly for passenger car insulation, Stonefelt is low in thermal conductivity . . . high in acoustical efficiency.

They knew that because it's made of interwoven, specially treated mineral fibers . . . felted and very small in diameter . . . Stonefelt retains its rated thickness in service and won't settle even when subjected to severe vibration. And in addition, they knew that Stonefelt is both highly fire-resistant and moisture-resistant.

To learn how easily and economically you can obtain comfort and quiet for travelers in *your* passenger cars, just call your nearest Johns-Manville office at New York . . . Chicago . . . Cleveland . . . St. Louis . . . or San Francisco.

Johns-Manville *88 YEARS OF SERVICE TO TRANSPORTATION*

The Humming Bird L&N The Georgian

FABREEKA

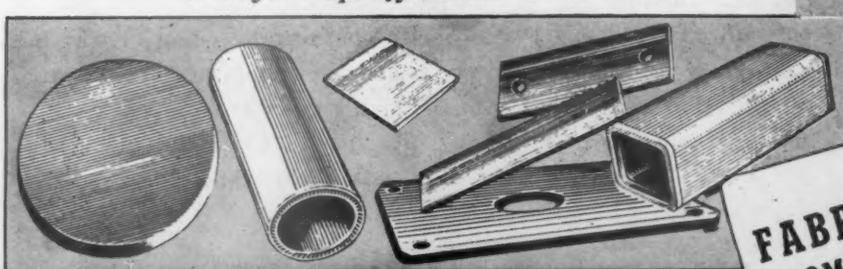
AND THE *Humming Bird*

To assure passenger comfort with safety and dependability, the Louisville and Nashville Railroad uses Fabreeka on their Humming Bird and Georgian Streamliners . . .

To reduce noise, isolate transmitted vibration and absorb impact shock . . .

At Coil Springs, Center and Side Buffer Stems, Side Bearings and Coupler Slides. Proven by over 12 years' use on the nation's railroads, Fabreeka materially reduces repairs, maintenance and replacement costs. Because of its unique structure and design, Fabreeka possesses extremely long life . . . an added factor for a low final cost.

It Pays to Specify Fabreeka!

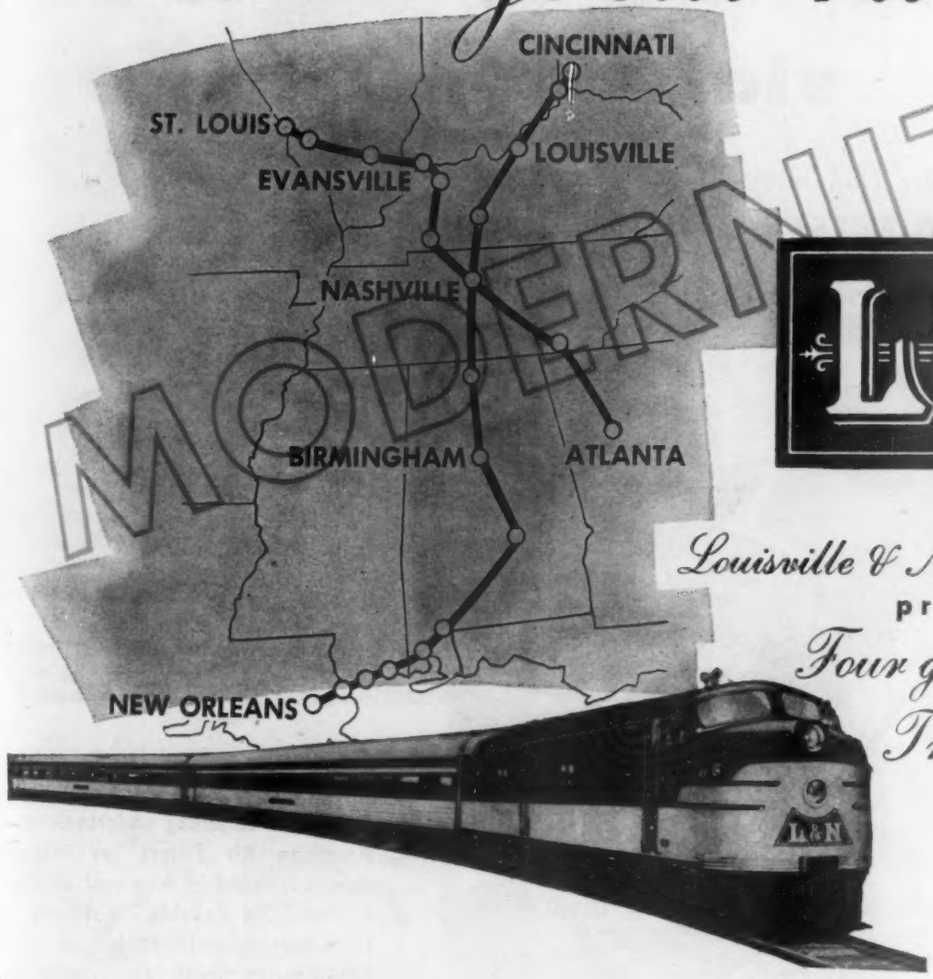


Used in RAILWAY PASSENGER CARS, Trucks and Platforms . . . LOCOMOTIVES, Steam and Diesel Electric . . . TRACK CONSTRUCTION, on Bridges, Crossings, Curves, Turntables and Track Scales.

FABREEKA PRODUCTS COMPANY, INCORPORATED
Boston 10, Mass.

The Hummingbird · L&N · The Georgian

Another great railroad MODERNIZES



L&N

THE
Louisville & Nashville Railroad
presents
Four great new Trains

FOUR New Ultra-modern Louisville & Nashville trains, *The Georgian* and *The Hummingbird,* now serve the South. No refinement in appointments, no improvement in equipment that will provide the utmost in safety and comfort has been omitted.

Jerks, jolts, jars and tiring vibrations are, of course, notably absent. As on many other fine trains today, the car-to-car impacts are cushioned and the shocks eliminated by Waughmat Twin Cushions.

Four great Louisville and Nashville Twin Cushion equipped trains point out the trend. Progressive Railroads today insist on providing passengers with complete riding comfort—"not ½ way comfort." They recognize that modern trains, to provide *complete* comfort, must be equipped with modern draft gears . . . Waughmat Twin Cushions.

WAUGHMAT *Twin Cushions*

WAUGH EQUIPMENT COMPANY, New York · Chicago · St. Louis · Canadian Waugh Equipment Company: Montreal

The Humming Bird · L&N · The Georgian

Clean and Comfortable via AAF Air Filters

American Air Filters Are Now in Service on *ALL* L & N Air Conditioned Cars and Diesel Locomotives

Its Diesels are AAF Protected too!

Send for bulletins on AAF filters for diesel engine protection

Another outstanding endorsement of American Air Filters for railroad service is found in their exclusive use by the "Old Reliable," not only on their new streamliners, but on all of their conventional air conditioned cars. Leading railroads and companies specializing in railroad air conditioning, have found AAF equipment outstanding in performance under the most trying dust conditions—and the most inexpensive, when maintenance and first cost are considered.

AAF offers both viscous type filters and Electronic precipitators for railroad car air conditioning service. Descriptive bulletins are available without obligation.

AMERICAN AIR FILTER COMPANY, INC.
Incorporated
111 Central Avenue, Louisville 8, Ky.
In Canada: Darling Bros., Ltd., Montreal, P. Q.

AAF

AMERICAN AIR FILTERS
for Railroad Car Air Conditioning

The Humming Bird L&N The Georgian

Photo Murals *Keynote*

Distinctive Car Interiors

RAILROAD management has heartily endorsed Photographic Murals as an important decorative motif for their modern streamliners.

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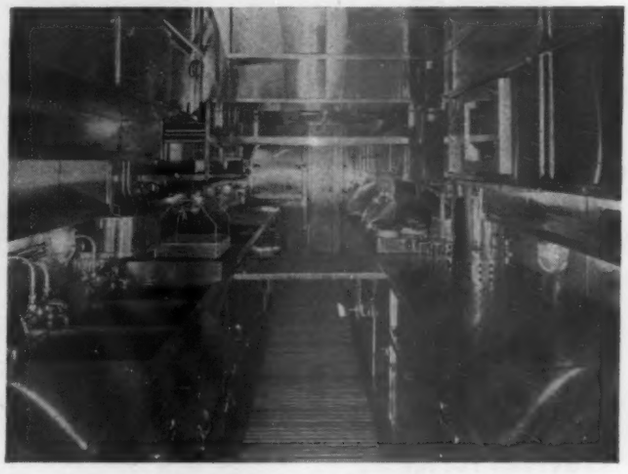
Railway Age



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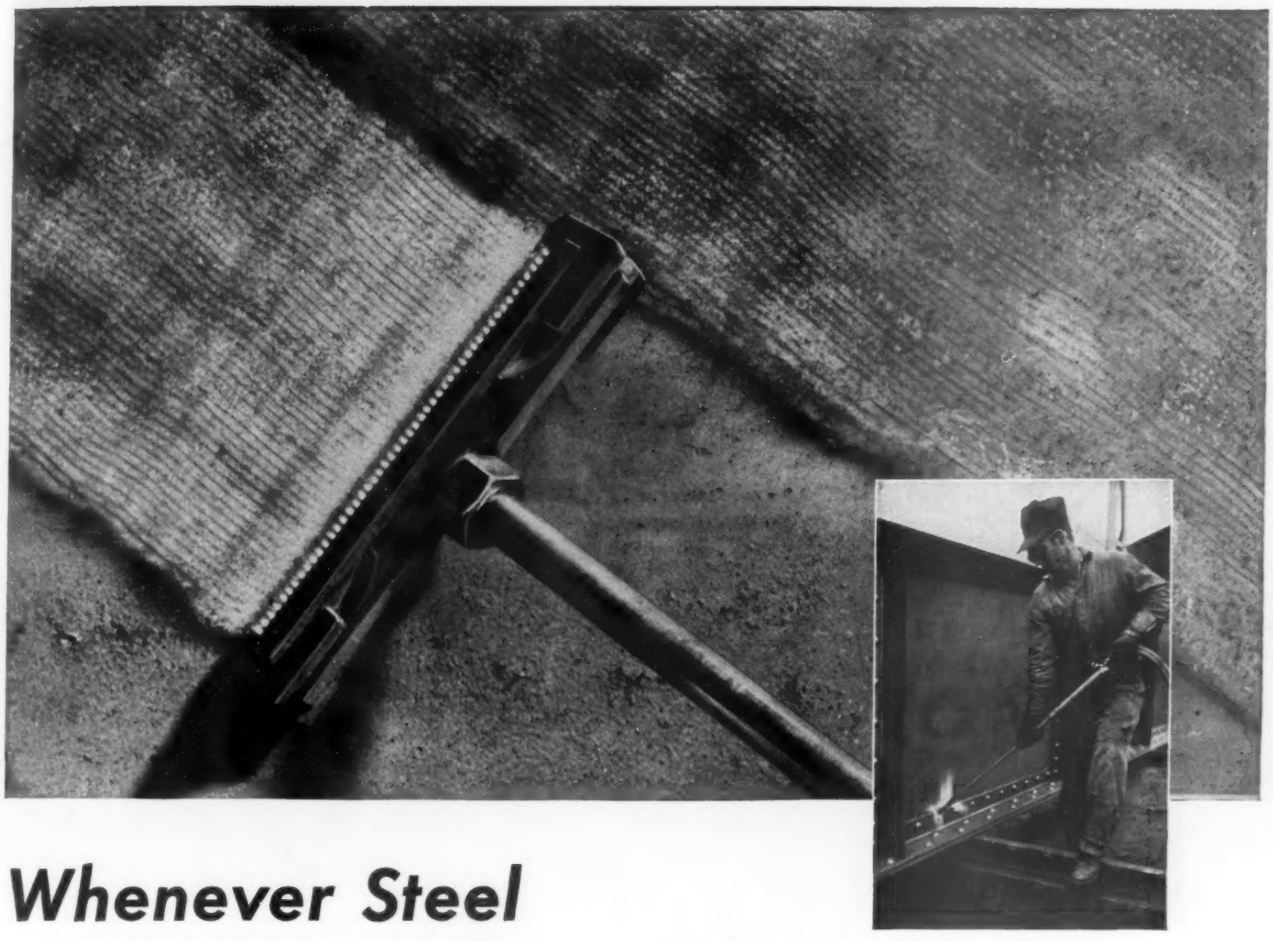

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To keep 5500 cars a month moving on schedule over its 2½ miles of main line track, Boston's Union Freight Railroad recently replaced its 90-ton steamers with five 44-ton diesel-electrics—cut fuel costs 74 per cent in the first month of operation.

Union Freight's choice of the "Lightweight Champions" was dictated by its unique operating conditions—tracks down the center of heavily traveled Atlantic Avenue and Commercial Street; a weight limitation of 90 tons over the Northern Avenue bridge leading to the New Haven freight yards; a city regulation limiting strings to 15 cars during the day, 35 at night.

Equipped for multiple operation, the 44-tonners enable the Union Freight to "tailor" motive power to fit train consist. Had heavier locomotives been chosen, they would have had to work at half capacity or less during the day, waiting until after 7:00 P.M. when their full weight could be used to advantage. Instead, the 44-tonners operate singly while the 15-car restriction is in effect, in tandem at night when loads are heavier.

As a result of this efficient utilization of motive power, Union Freight has materially reduced its operating expenses. During the month of July, fuel cost alone was slashed from $1693 for coal to $435 for oil. Coal and ash handling costs have been eliminated, including a $1.15 per diem charge for gondola cars used for ash handling.

Whether you plan for complete dieselization, like the Union Freight, or for a single unit, you'll find the Alco-G.E. 44-tonner ideally suited to handle the light traffic requirements of your road. It has plenty of power for switching or yard work, plenty of speed for transfer or road service. And the inherent efficiency of its diesel-electric power plant will make possible real operating economies in all types of service. Our engineers will be glad to work with you to determine how you can use it to best advantage.

"Railroadin' Downtown"—a new color and sound short tells Union Freight's interesting story in detail. You'll want to see it—ask your G-E representative for a showing.

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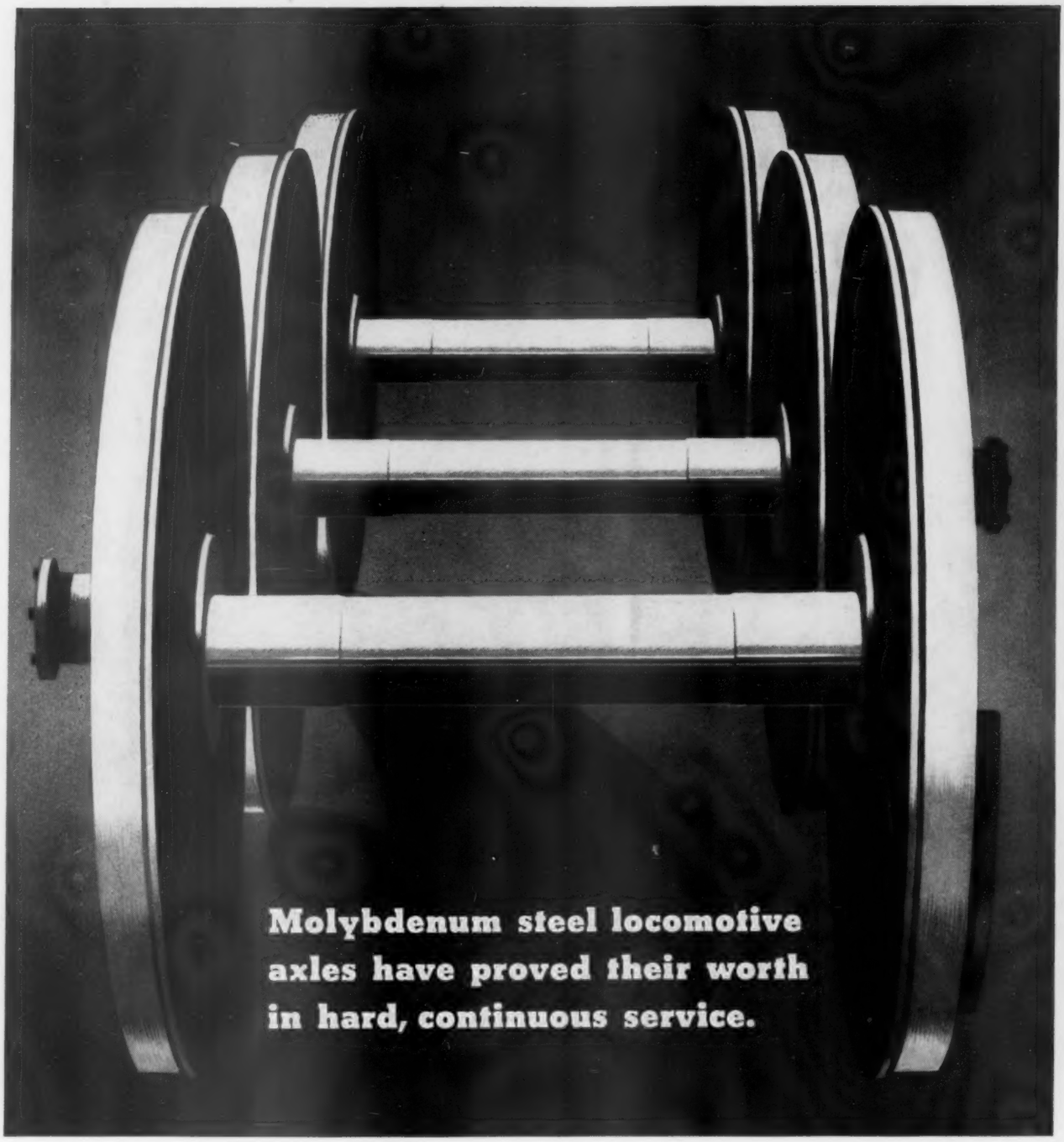
Costs!

Working singly or in tandem, the Union Freight's five 44-tonners interchange all cars between the New Haven and Boston and Albany yard, and the Boston and Maine yard. In addition they serve 230 consignees along the 2½-mile main track. City regulation requires every train to be preceded by a brakeman on foot carrying a red flag or lantern, limits top speed to approximately three miles per hour.

and GENERAL ELECTRIC

121-38 3680



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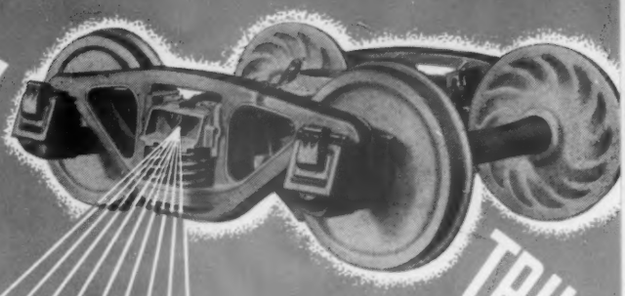

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★ LONG SPRING TRAVEL

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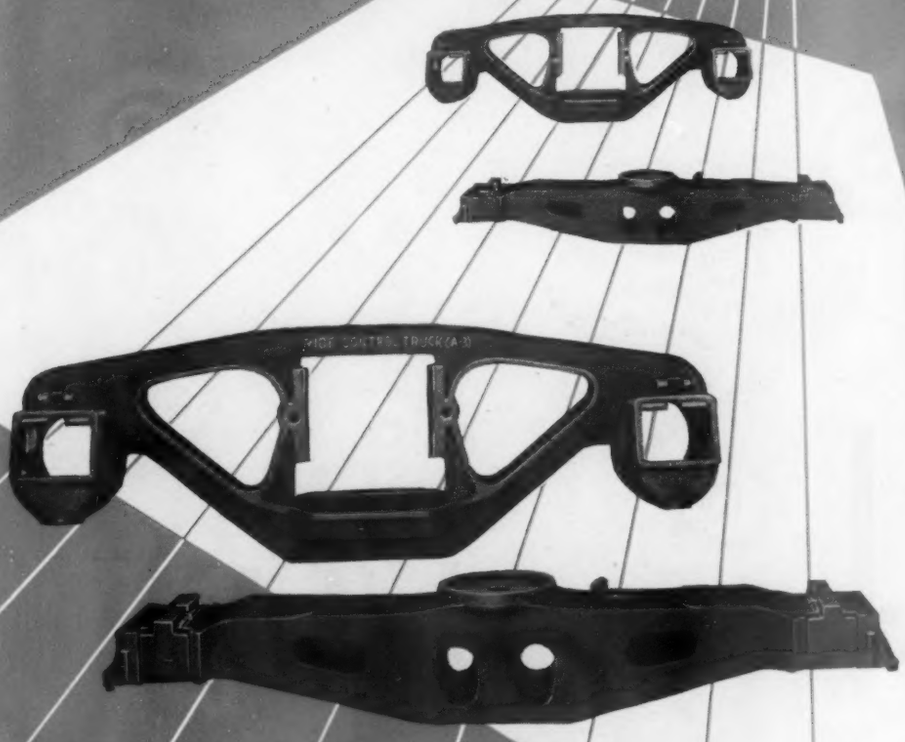

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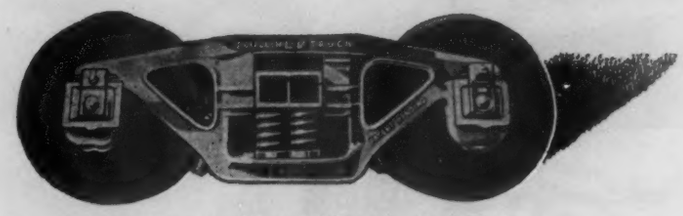

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Scullin Side Frame

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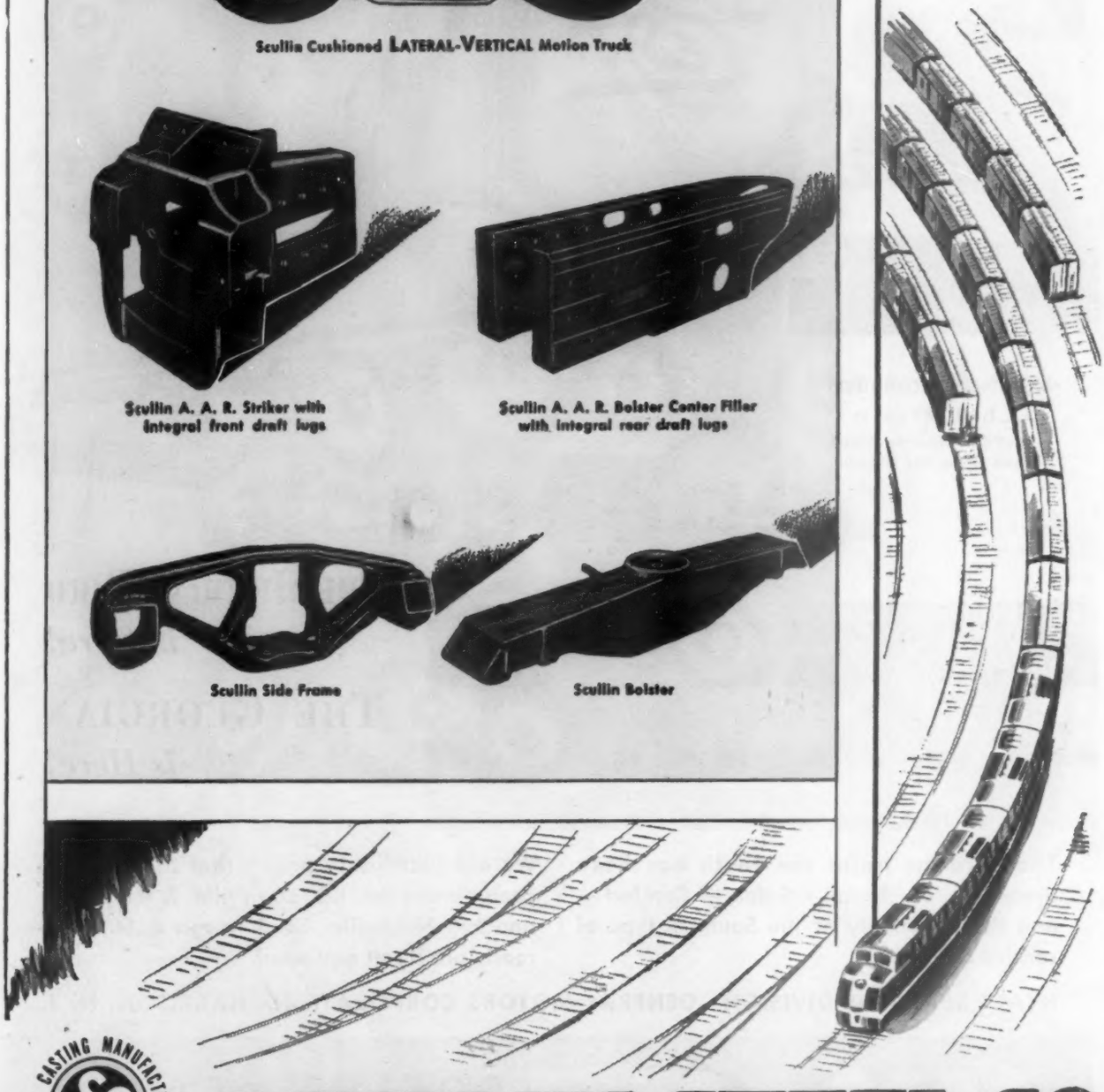

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The Humming Bird L&N The Georgian

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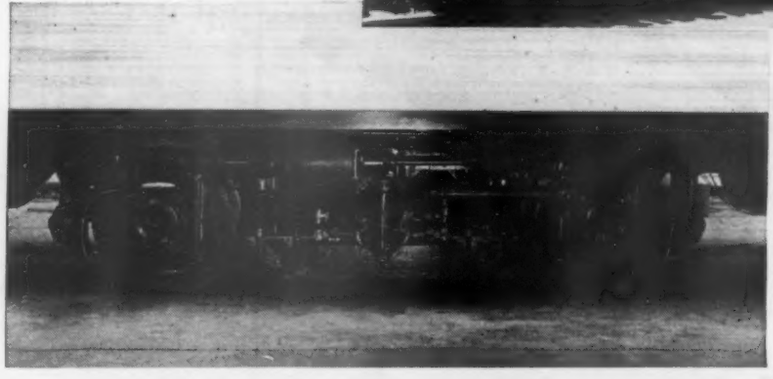

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Railway Age

With which are incorporated the Railway Review, the Railway Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 121 December 14, 1946 No. 24

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American Car & Foundry builds four seven-car trains with many refinements in design and appointments.

Burlington Builds Three Diesel Shops ***1004***

The first of two articles describing new facilities for maintenance and repair of this road's growing fleet of this type of power.

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Railway Age is a member of Associated Business Papers (A. B. P.) and Audit Bureau of Circulation (A. B. C.), and is indexed by the Industrial Arts Index and by the Engineering Index Service.

★

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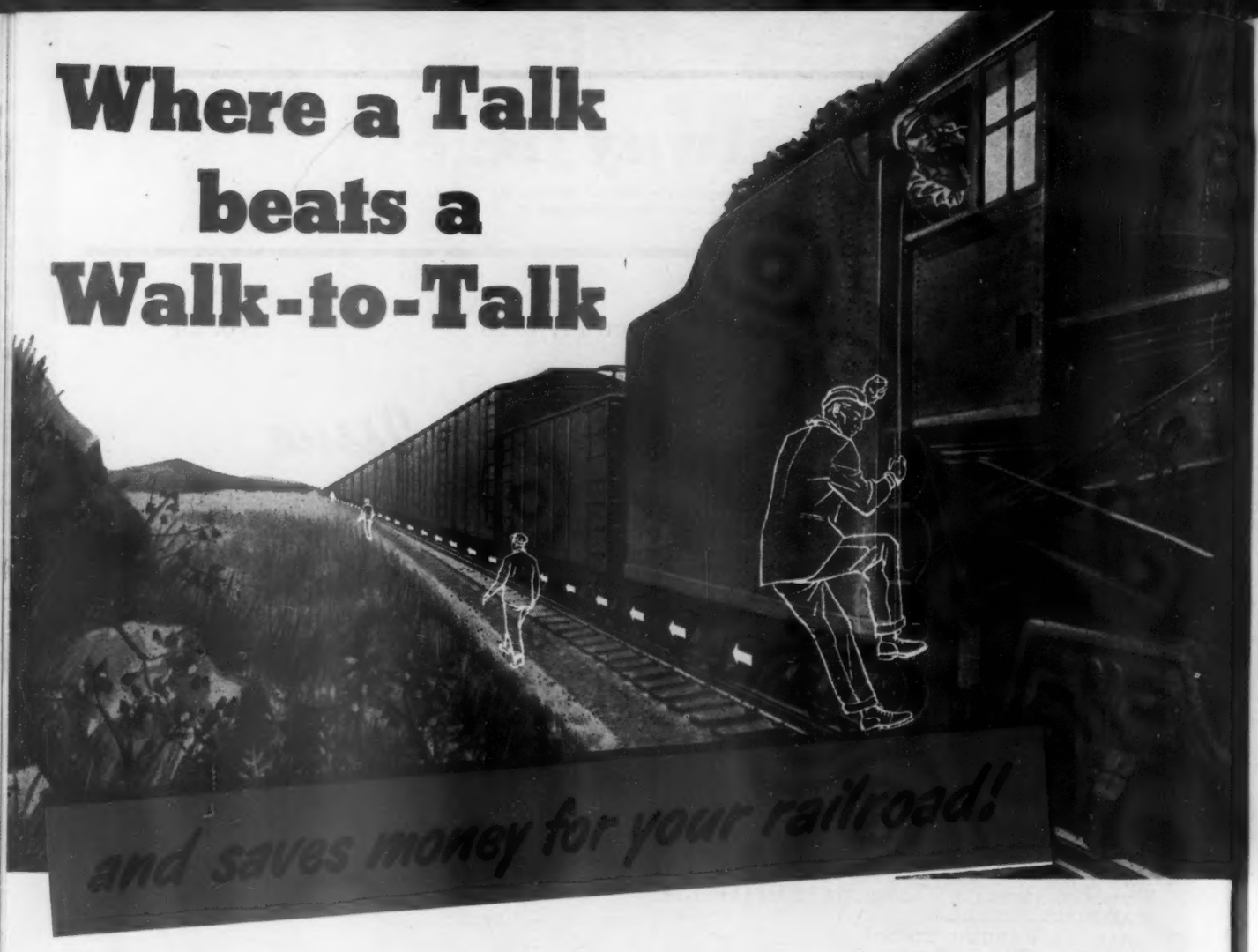
Where a Talk beats a Walk-to-Talk



Consider the number of times trains must stop, with crew members often required to walk considerable distances to exchange information. In addition to direct costs involved in starting and stopping a train, think of the time that is lost, the schedules that are disrupted and the loss in track capacity and availability of rolling stock. Then you begin to realize how much "Union" Inductive Train Communication can save in those instances alone.

With "Union" I.T.C., many stops can be eliminated because crews on the locomotive and caboose can talk to each other, to wayside stations, and to other trains, without leaving their normal posts. They can exchange information pertinent to operation of the train while the train is in motion. When stops are necessary, the crews can use the I.T.C. to take such action as is necessary to reduce the delay—do not have to *walk to talk* about train orders, the planning of switching operations or the execution of routine air-brake tests. Delays do not occur while hand or lamp signals are relayed around curves, or through darkness and bad weather.

Remember, these are only a *few* of the ways "Union" I.T.C. can save time and money for your railroad. This same, swift communication has equally important advantages in classification yards, between yard conductor and locomotive crews—in mainline service, between engineman and conductors on the same train, or between crews on separate trains and between train crews and station operators. Write for Bulletin 160, or call upon your nearest "Union" district office for full information.

UNION SWITCH & SIGNAL COMPANY

Swissvale Pennsylvania

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

I.T.C. THE VOICE OF EXPERIENCE IN TRAIN COMMUNICATION

The Week at a Glance

BUYING POWER—: The inexcusably long overdue Interstate Commerce Commission authorization of a freight rate increase —the terms of which are summarized in a feature article on page 992—probably will provide the railroads, for a while, with sufficient buying power (and confidence to use it) to proceed with rehabilitation and improvement of their properties as rapidly as the capacity of makers of materials and equipment will permit. The commission's estimators estimate an increase in revenues next year of around a billion dollars, such calculations being based on various assumptions—e. g., that freight traffic will increase and wage costs will not get further out of line with the employers' ability to pay. Apparently anticipating criticism that it is being generous to the railroads, the commission's report pointedly recites the late Commissioner Eastman's comment, under somewhat comparable circumstances, to the effect that the increase very readily can be pared down if it should happen to bring the railroads a larger return than is anticipated.

●

—BUT NOT ENOUGH: Though the rate increase gives the railroads more immediate buying power, it remains most doubtful if it will produce a long term improvement in the industry's sadly impaired credit rating. The trouble with the commission's decision (in addition to the callous deliberateness with which it was reached), this week's leading editorial observes, is its failure to provide a satisfactory basis for rebuilding railroad credit. If the industry is to develop its potential place in the nation's expanding economy, if it is to maintain the capacity to meet emergency demands that stood the country in such good stead in its recent time of peril, it must be able again to attract venture capital in the competitive market. Owners of capital have not appraised the railroads' power to earn a profit very highly in recent years, and cold analysis of the probable results of this belated rate increase leaves room for doubt whether railroad earnings will be sufficiently better in 1947 to support a materially improved appraisal. If the railroads are to continue to be self-reliant private enterprises, their managements and employees and customers, and the public agencies that control their destinies, have no choice but to assure them revenues adequate to attract capital. The current rate increase decidedly falls short of providing that assurance.

●

SERVICING 170 DIESELS: Appropriate shop facilities at convenient points enable the Burlington to maintain its large fleet of Diesel-electric switchers and road locomotives effectively and economically. The installation at Clyde in the Chicago area, described this week in an illustrated article, is designed especially to care for road freight and switching units, as separate provision is made in the Chicago area for passenger Diesels. One of the Clyde shop's features—particularly useful on railroads where snow and ice are prevalent for weeks or months—is the de-icer with which the inspection pits are equipped. As this machine is moved under a locomotive, a hot-air blast quickly loosens ice deposits in order that inspection and repair work can go on without delay.

●

RETROGRESSION: August freight car deliveries to domestic railroads totaled 5,141; September, 4,016; October, 3,828; November, 3,244. And December got off on the wrong foot. Statistics of this sort (the latest being those in this week's news pages) make discouraging reading in the face of continuing car shortages, and the downward trend may be interpreted in some quarters as a significant measure of the failure of the efforts of materials allocators in Washington to produce results.

●

TIME-SAVERS: Four streamlined coach trains, built by American Car & Foundry for the Louisville & Nashville and put in service last month, are the subject of feature articles in this issue. Two of these 7-car trains are assigned to daily operation between St. Louis and Atlanta (reached by the affiliated N. C. & St. L.), making this 611-mile run in about five hours less time than previous schedules allowed. The other trains are in daily operation between Cincinnati and New Orleans, and again the time between terminals, approximately 19 hours, represents a substantial reduction under previous schedules.

●

EMPHASIS ON COMFORT: To assure customer satisfaction, the new L. & N. trains have been planned to facilitate sociability and to assure comfort. Restful interior colorings, subdued lighting and adjustable seats quickly attract the passenger's notice, but equally important, of course, are modern trucks and springs, roller bearings, tight-lock couplers, and adequate air-conditioning capacity. Coach lounge rooms and a spacious tavern-lounge car help to make the traveler feel at home, and remind him that travel by train has advantages that other forms of transportation do not match.

●

DEPLETED COAL PILES: As coal costs more this year than last, it might be expected that the railroads would have spent more for that fuel so far in 1946 than in the equivalent 1945 period. That they have not (the difference for the first nine months is more than $9 million) may be explained in several ways—coal strikes, the decline in traffic, deplenished revenues, for example. The result, as shown in our review of railway purchases up through September (page 1011) was a fuel inventory, before the recent mine strike, almost 10 per cent less in dollar value than at the same time last year, and around 22 per cent less than the September, 1944, figure. Here is one explanation of the concern exhibited in Washington (and translated into embargoes and suspensions of passenger service) over the ability of the railroads to keep running in the event of a prolonged mine "work stoppage."

BERGE FORBEARS: Not satisfied with an oral "assurance," Colonel Johnson has been turning the heat on in an effort to get from the anti-trust lawyers on the government payroll some documentary protection for the railroads against more anti-conspiracy crusades. There'll be no renewal of Certificate 44, which allowed joint rate-making bureaus to function normally during the war, the O. D. T. director has been told again, but at least he has pried out of Mr. Berge a promise in writing, with his name on it, not to file any more suits charging the railroads with "collusion" in making rates until the pending Lincoln and Georgia cases get court action. The catch in the promise is Mr. Berge's reservation of the right to crack his whip again if his file snoopers ever find something which they choose to call an "unusual circumstance." The text of the Berge letter is quoted in our news columns.

●

59-YEAR PRECEDENT: Going back to the Providence Coal case of 1887, one of the first to come before it, the Interstate Commerce Commission has maintained consistently that lower rates for volume shipments are unlawful. It has so ruled not simply on the ground that they are volume rates, but because, first, only a few shippers can take advantage of them or, alternatively, adequate evidence has not been submitted by carriers that lower handling costs attributed to the volume movement match the reductions. This point is developed in an article by G. Lloyd Wilson in which he pursues his examination of the various types of freight rates not in general use in this country because they are unlawful or in conflict with established I. C. C. policies.

●

TWO-WAY STREET: It may be generally accepted that there are maintenance and construction practices in vogue on American railroads which, because of their novelty or labor-saving characteristics, represent advances over comparable developments in other countries. It does not follow, however, an editorial points out, that American railroaders have nothing to learn in their turn from visitors who come from overseas to see how things are done over here. Learning can be, and should be, a give and take process, and—given the opportunity—the railroad man from abroad is quite likely to be able to impart some useful information as he goes about this country looking for new ideas and helpful suggestions.

●

FIGURED HOPEFULLY: Another installment in the series of estimates of the results of the Ex Parte 162 freight rate increase appears in the commission's statistics bureau's "Monthly Comment," the subject of an analysis in this week's news pages. Assuming 1947 follows the pattern of the past, and that traffic will hold up, the bureau "constructs" a table showing revenue increases of $1,004 million over pre-July 1 levels, of which the western roads would receive $396 million, the southern roads $141 million, and the eastern roads $467 million.

The Hummingbird L&N The Georgian

"Nerves" for a Hummingbird:

. . . CAR WIRE BY OKONITE

For 20 coaches and four tavern lounge cars of its streamliners, "The Hummingbird" and "The Georgian", the Louisville and Nashville Railroad specified car wire by Okonite—wire which was installed by the car builders, the American Car and Foundry Company.

In the "nerve systems" of lighting and air conditioning apparatus, passenger comfort is well protected when the choice of Okonite-engineered car wire is made. Millions of feet of this proved-on-the-job railroad product are in service today demonstrating its stable electrical properties as well as its ease in handling during installation.

The Okonite name is an equally dependable guide to long-life and failure-free operation in the selection of signal cables, CTC aerial cables, communication cables, battery cables, shop wiring and power circuits. Full information on any of these is available by writing to The Okonite Company, Passaic, New Jersey.

OKONITE OKONITE SINCE 1878 insulated wires and cables

RAILWAY AGE

●

The Freight Rate Decision

Last week's decision of the Interstate Commerce Commission—permitting railroad freight rates to be increased on January 1 to an average of about 11 per cent above the present level, and some 17½ per cent above the pre-war rates, which were those which prevailed prior to July 1—comes fairly close to the average increase of 19½ per cent for which the railroads had petitioned. The revision in rates should yield the railroads about $980 million more in revenues than they could have expected had pre-war rates continued to prevail, provided 1947 traffic conforms to the estimates of an increase over 1946 of one billion in revenue ton-miles and a decrease of 17 billion in passenger-miles.

This increase in earnings, together with liquid assets accumulated during the war, will provide the railroads, for the time being, with the buying power they need to go forward with the rehabilitation and improvement of their properties at a level where the limiting factor will probably lie rather in the capacity of the manufacturing industry to supply their needs than in their own willingness and ability to finance additions and betterments. Even a limited weighing of the figures will show, however, that these rate increases will fall short of providing the railroads with returns on capital at a level sufficient for the necessary restoration of railroad credit to the position it occupied in the days prior to the New Deal.

Adequate Capital Essential to Progress

From the standpoint of the public interest in the maintenance of a progressive railroad industry, *the* railroad problem is the problem of capital supply. That is, will this industry be able to attract to it, from private investors, a sufficient inflow of new equity capital to keep its plant at all times abreast with the nation's military and commercial requirements for adequate, efficient and dependable railroad service? Not since early in 1931 have railroad stocks sold at an average price of above 100 on the Dow-Jones index, and for most of the intervening period they have sold at less than 50.

In its freight rate decision the Interstate Commerce Commission has endeavored to quiet its qualms of conscience for having granted the railroads an increase which falls short of meeting the carriers' needs for net earnings by presenting a table setting forth the average decline in yields of various types of securities from 1922 to 1945, the implication being that a low "wage" for capital is justified. Such figures have no practical significance and serve no purpose except to give employment to government statisticians. The *significant* index of the adequacy or inadequacy of railroad earnings is the average price of railroad stocks. From 1924 through 1931 this average exceeded 100—and, in response to such a favorable "climate" in the investment market, the net investment in road and equipment increased more than $6 billion in the decade ended 1930.

Needs Exceed Prospects

In the decade ended 1940, by contrast, the average price of railroad stocks at no time after 1931 attained as high a level as 65—and, in that decade, the railroads' net investment in their plant *declined* by a quarter of a billion dollars. The narrow margin by which the railroads managed to meet the transportation requirements of the war, and the actual shortage in railroad facilities from which the nation has suffered during the past year of peace, should demonstrate to all who have eyes to see that a reversion to the dearth of new investment in the railroads which prevailed throughout the 'thirties would be to invite national disaster if another military emergency should arise—to say nothing of the brake which inadequate transportation service would set on national prosperity in the meantime.

How much net operating income the railways can earn on the new basis of rates can be determined only by actual experience. In the ten peace-time years ending with 1930 they earned on the average 31 per cent of their annual net operating income in the third quarter of the year. In the third quarter of 1946 their net operating income (excluding credits for federal taxes) was about $144 million. The increase of about 11 per cent in freight rates now authorized (in addition to the increase of 6½ per cent made effective July 1) would have increased their net operating income in the third quarter to $317 million. If the Crosser bill increasing taxes for benefits for employees had been in effect, as it will be next year, net operating income in the third quarter of 1946 would have been only $275 million. This would have been at an annual rate of $895 million—

12 per cent less than the annual average earned in the decade ending with 1930 and 30 per cent less than the annual average of $1,250 million which the railways will need during the next decade.

On the basis of the rate increase averaging 19½ per cent for which the railroads asked, a table in the I. C. C. decision estimates net operating income for 1947 at $883 million. Since the commission has limited the increase to about 17½ per cent, the net operating income earned according to this estimate would be only $773 million—38 per cent less than in 1929, although the net investment in railroad plant is $2 billion greater than in 1929 and 1947 passenger traffic should exceed that of 1929 by more than 100 per cent and freight traffic by approximately 50 per cent. For the railroads, with this prospective much larger traffic, to earn in relation to their investment what they earned in 1929—and thus to be as popular with investors as they were in that year—they should have in 1947 net operating income of $1,350 million, or 50 to 75 per cent greater than on either of the foregoing estimates they can apparently expect to earn next year with the increase in freight rates which they are now permitted to make.

No indispensable industry can hope indefinitely to remain under private ownership and operation unless, at length, it attains a plane in investors' confidence where it can obtain from them all the funds it needs to maintain healthy growth and improvement. It follows that the central concern of everyone with a responsibility for or interest in the welfare of the railroad industry—managements, shippers, military authorities, employees, regulatory authorities and the intelligent public—should be with the steps necessary to restore railroad stocks to the market position which they occupied during the 'twenties. In its last week's decision on freight rates, the I. C. C. has afforded some much-needed immediate help, but it has fallen far short of the action required, if the railroads are to be put again firmly on their financial feet.

In one further respect the commission has failed to deal adequately with conditions as they are—that is, in the unconscionably long time it took to make up its mind in this case. Even if, as the I. C. C. insists, the complexity of the job necessitated so many months for adequate consideration, the railroads certainly last spring made a *prima facie* case for a much larger interim increase than the niggardly 6½ per cent which was given to them. Unless in future the commission can promise to deal more expeditiously with such urgent rate cases than it has with this one, the railroads must henceforth resolutely refuse to grant any more increases in wages unless they are held in abeyance until the I. C. C. makes available the funds with which to pay them.

The O. P. A., for the sin of being much less dilatory than the I. C. C. has been in allowing price increases to compensate for increases in wage costs, drew such a storm of public wrath upon itself that it was forced out of existence. The fate of the O.P.A. demonstrates that public opinion, if given the facts, would not require the railroads to tolerate the ruinous and inexcusable delay with which the Interstate Commerce Commission has dealt with the carriers' revenue needs—and managements will be delinquent in their duty to their employers if they ever again suffer such bureaucratic indolence so long in respectful silence.

The Gas Turbine

If one is inclined to dismiss the gas turbine as of little probable consequence as a future prime mover, even a superficial glance of the program of the annual meeting of the American Society of Mechanical Engineers, held at New York during the first week of December, will suggest the need of revising that opinion. The gas turbine was the subject of consideration in one or more papers at seven sessions involving six different professional divisions or committees of the society. One of these sessions was a seminar on aircraft applications in which there were five contributions from six authors. In addition to this, there were eleven papers, of either single or joint authorship, dealing with the problems of pulverized-coal combustion, with marine applications, with the possibilities of wet compression in the turbine cycle, with special heat-resistant materials for turbine blades, and with a recently developed gas-turbine-electric power plant suitable for rail, marine, central station, and industrial applications. The authors come from industrial organizations engaged in the development and building of gas turbines and from various research organizations, including a number of college laboratories.

The gas turbine, it is evident, has captured the imagination of many engineers in and out of industry and they are being backed widely by industrial organizations in carrying on the development of this relatively untried prime mover. There are several reasons for this broad and deepening interest.

The mechanical simplicity of the gas-turbine power plant and its independence of water supply have been strong attractions from the outset of its appearance.

Wages and Prices

The [rate] decision had to be given at a time when—so far as anyone knows—wages and prices are still running their steeplechase. Mr. Lewis has asked the soft coal miners to go back to work, but the manner of his doing so clearly intimates that the miners must obtain, before March 31 next, another substantial wage increase, or else. Railroad labor organizations are preparing their corresponding demands, being quite unwilling to be the only large employee group absent from the parade.

So railroad company executives are apprehensive about the rising cost of a railroad's living, exactly as their employees are uneasy about what it costs them and their families to live in the style to which they have become accustomed. . . .

The freight rate decision is an exceptionally visible process of adjusting prices to costs. But the same process goes on throughout industry and trade. Here is precisely that "vicious circle" which economists have so long and so solemnly warned us cannot fail, if it continues long enough, to destroy the value of all savings and give us "a rotting currency." . . .

At the risk of irritating repetition it must be said again that widespread wage increases without proportionate gains in productivity benefit portions of the labor force temporarily and nobody permanently. There is but one serious possibility that the United States may run into a major depression in the near future, namely, that we invite it and even make it inevitable through our foolish mismanagement of wage-price relationships.

—*The Wall Street Journal*

When it was first considered seriously for locomotive use, on the basis of reports to the Railway Fuel & Traveling Engineers Association by L. P. Michael, then mechanical engineer, Chicago & North Western, in 1939, metals were available to withstand turbine operating temperatures up to about 1,000 deg. F. Today, turbines are being built to operate at temperatures of 1,300 to 1,400 deg. F. This is a measure of the metallurgical advances which have largely taken place during the war years. The increase in efficiency which the higher operating temperatures have made possible adds greatly to the basic attractions.

Another of its advantages is its ability to burn Bunker C oil. If the use of pulverized fuel with the gas turbine, now being developed for locomotive application, proves successful, there will be little restriction in the range of fuels which the gas turbine can use.

Ideas from Abroad

The opinion seems to be general, both here and overseas, that the construction and maintenance standards and practices of American railroads are the most advanced in the world. Doubtless this belief is well founded; anyhow it is so strongly held in many countries that their railroads are repeatedly sending missions to the United States to study our standards and ways of doing things, and many of their officers are avid readers of American railway publications. In recent months railroad "missions," all including engineering and maintenance officers, have visited this country from such widely-separated parts of the globe as England, Sweden and Australia.

There is no denying that these missions find much here of interest and value to them. The American's traditional skill in developing mechanical devices to do his work for him is reflected in the many ingenious machines used by the railroad maintenance forces, and the progress made in this respect frequently amazes maintenance officers from other countries. They are also interested in many other aspects of our practices, including the standards of design and construction and maintenance methods generally.

But, while enjoying the pleasant glow that comes from the admiration of overseas visitors, might not maintenance officers improve the opportunity to ask them whether they too do not have a practice or two in mind from their experience which might prove novel and useful to our folks, with all their ingenuity? This can actually happen. For example, the chief engineer of one of our large railroads recently heard with astonishment a contemporary from Australia explain that it was standard practice on *his* road to install practically all rails in running tracks with butt-welded joints. Thereupon, the tables were turned, so to speak, the chief engineer becoming the interrogator and the Australian engineer the source of information.

For that matter, some of the basic developments underlying the railroad track structure as it exists today in America had their origin in other countries. An example is the practice, developed in Europe, of treating wood by impregnating it with a decay-resisting material—an innovation which has saved the railroads of this country millions of dollars by lengthening the life of crossties and other timbers. Indeed, America did not even initiate the steel rail—the first of them to be used in this country were produced in England several years before even the facilities for manufacturing such rails were available here. Anyone wishing to do a really good job of deflating the American ego could venture to recall, further, that the basic idea of operating wheeled vehicles on parallel guides (rails) was not conceived in this country but in England.

In sum, neither the United States nor any other country has a monopoly on fruitful ideas leading to technological progress in the design, construction and maintenance of railway tracks and other structures. A logical conclusion, then, is that the presence in this country of railroad missions from abroad affords an opportunity for our maintenance men and engineers not only to impart useful information but to ask for it too. A not less logical sequel to this suggestion is the idea that, maybe, our maintenance men and engineers could benefit from an occasional inspection trip in other countries.

Freight Trains Pull Out When Ready to Go

Recently, when discussing an installation of centralized traffic control in his territory—compared with the previous use of timetables and train orders for authorizing train movements—a train dispatcher pointed out that one of the most important advantages of the innovation was the ability to direct trains to pull out of a yard and depart when they were ready to go. Under the previous practice it was necessary that he anticipate the approximate arrival time of a train, make a guess at the time required in the yard, and issue orders based on an estimated time of departure. If the train was ready sooner than anticipated, there was not enough time available to change orders and, therefore, it just had to wait. On the other hand, if the train was not ready to go at the time expected, he was in a predicament to know whether to "bust" the orders and start all over, or to allow them to stand and let the various trains on the road take the delays accordingly.

In contrast, as the dispatcher explained, with C. T. C. the track-occupancy lamps on the board tell him the locations of all trains on the line, and when he gets a telephone call informing him that a train in the yard is ready to pull out, he takes a look at the board, figures out the move, and gives it a signal to get going. It might occasionally happen that he would have to hold the train in the yard until an opposing train in the same block arrives and pulls into the yard—but, nine times out of ten, he gets trains out of the yard from 15 to 30 min. sooner than he did with train orders.

Most calculations of the economies of C. T. C. have concerned themselves with savings in road time of trains. From this dispatcher's evidence, it is plain that the reduction of time lost in yards is still another factor which should be included in these computations.

17.6 Per Cent Rate Increase Authorized

I. C. C.'s final report in Ex Parte 162 approves advances, superseding interim adjustment, which the commission estimates will produce "close to" the billion dollars in additional annual freight revenues sought by the carriers; time limit on present passenger fares removed

WASHINGTON, D. C.

FREIGHT rate increases which it estimates will produce "close to one billion dollars a year" in additional revenue have been authorized by the Interstate Commerce Commission in its final report in the Ex Parte No. 162 and reopened Ex Parte No. 148 proceedings. While the commission thus indicated that it was giving the carriers the aggregate amount sought in their petition, the authorized increases average over-all two per cent less than the advances proposed—17.6 per cent as compared with 19.6 per cent.

The decision, dated December 5 and made public the following day, authorizes the rail and water carrier parties to make the approved increases effective on five days' notice at any time in the period from January 1, 1947, to February 28, 1947, and the carriers plan to publish the necessary tariffs effective January 1. The increases now authorized are to be applied to the pre-July 1 rates, for the decision supersedes the commission's so-called interim report in the proceedings. As noted in the *Railway Age* of June 29, page 1262, that interim report of June 20 authorized freight rate increases averaging 6.5 per cent and calculated to produce about $390 million in additional annual revenue as a temporary emergency measure pending full hearing on the carriers' petition. The later was filed April 15, so the commission took nearly eight months to make its final determination.

Removes Time Limit on Fares

With respect to passenger fares, the present decision grants all the railroads asked in their petition, i. e., authority to continue in effect without expiration date the Ex Parte No. 148 increase of 10 per cent which became effective February 10, 1942, and which has heretofore been scheduled to expire six months after the legal termination of the war. Motor carriers were not among the petitioners in the proceeding, but the freight forwarders were. With respect to the latter, the commission found no order necessary, the report merely saying that the forwarders may file tariffs, subject to possible protest and suspension, bringing their charges into line with the authorized rail and water carrier adjustment.

The railroad proposal was for a general increase of 25 per cent, but with numerous specific exceptions as to which lesser percentages or maximum amounts were proposed. The increases now authorized for line-haul service are on a general basis of 20 per cent for commodities other than those specially treated, and 15 per cent for the basic products of agriculture (except fruits and vegetables) and live stock.

"However," as the commission's summary statement puts it, "an elaborate system of maximum increases as to various important commodities, such as fruits and vegetables, proposed by the carriers and revised by the commission, limited the maximum amount of the increases, particularly for long hauls, in the interest of the preservation of competitive relations that a uniform percentage increase would disrupt."

No Opposing Votes

All members of the commission participating concurred in the results of the decision, although the report indicates that there were individual differences of opinion as to particular features of the adjustment made. No commissioner dissented. Chairman Barnard, who was absent, and Commissioner Johnson, engaged in his duties as director of the Office of Defense Transportation, did not participate. A majority of the committee of state commissioners who sat through the proceedings in a cooperative capacity agreed "in general" with the results reached.

As noted above, the commission indicated that the increase would average 17.6 per cent over-all. It stated further that the Eastern-district advance would approximate 17.9 per cent while rates in other territories would be up about 17.4 per cent. The higher Eastern-district percentage reflects the commission's adherence to the interim report's plan of giving railroads in that section something in addition to the over-all adjustment.

The interim report permitted the Official-territory roads to make their temporary advances five per cent higher than those authorized for the remainder of the country. In the present report, the more favorable treatment of those same roads comes in the finding which authorizes them to increase by 25 per cent their rates "on articles under the general commodity grouping of Manufactures and Miscellaneous, class rates, and rates on less-than-carload and any-quantity traffic." Rates on this same traffic between Official and other territories may be increased 22.5 per cent. Within and between other territories this traffic gets only the 20 per cent increase.

Among the commodities given exceptional treatment are coal, lignite and coke, and iron ore. On coal and coke the increases are 15 cents per net ton or 17 cents per gross ton, in all basic rates up to $1 per ton; 25 cents per net ton or 28 cents per gross ton in rates over $1 and not over $2.25 per ton; and 30 cents per net ton or 34 cents per gross ton in rates over $2.25 per ton. Lignite will take increases equal to half the foregoing amounts. When these commodities are transported by water preceded and followed by rail transportation, or transported by rail at a combination of two separately established rates, "the aggregate amount of the rail factors shall be considered as the rate to be increased . . . and be subject to a single increase."

One Iron-Ore Increase Lost

On iron ore the authorized increase is 12 cents per ton, gross or net, as rated, except that rates to or handling charges at the upper Great Lakes ports may not be increased. This latter finding is one place where the commission failed to grant as much as it had given in the interim report, and these rates and handling charges with respect to the ex-lake iron ore's initial rail movement will revert to the pre-July 1 basis with the cancellation of the temporary increases on January 1, 1947, as now required.

Meanwhile, the railroads got more than they asked with respect to rates on iron and steel articles, the commission there applying the general 20 per cent increase subject to a maximum of 10

cents per 100 lb., but not in excess of $2 per net or gross ton, as rated. The railroad idea was to limit the proposed 25 per cent increase on these commodities to a maximum of 4 cents per 100 lb. or 80 cents per net or gross ton, as rated, and subject to the proviso that railway car wheels, axles and trucks, when not included in the iron and steel list, and scrap iron and scrap steel, when not taking commodity rates, would take the full 25 per cent increase without limitation.

Noting that collectively the iron and steel commodities are the third most important group in point of tonnage, and second as to revenue, the commission went on to say that the "exact origin" of the maximum proposed by the carriers was not of record. "Generally," the report added, "it would affect rates for distances over 95 miles. The declared object is to disturb as little as possible 'existing relations between producers and competitive commercial conditions,' and it would result in an average increase of about 10 per cent. . . . Clearly, the average increase on these iron and steel commodities can and must be more than 10 per cent if the revenue needs of the carriers are to be met, without placing an undue burden on other traffic."

Among other commodities as to which the generally authorized 20 per cent increase is limited are: Citrus fruits and certain other fruits and vegetables, maximum 13 cents per 100 lb.; wool, maximum 20 cents per 100 lb.; crude petroleum, asphalt and tar and petroleum and petroleum products in tank cars, maximum 6 cents per 100 lb.; salt, maximum $1.20 per ton or 6 cents per 100 lb.; sugar, maximum 10 cents per 100 lb.; lumber, maximum 10 cents per 100 lb.; cement, lime and plaster, maximum 6 cents per 100 lb. or $1.20 per net ton.

Many Maximum Limits

Like iron ore, alumina and bauxite ore and concentrates get increases of 12 cents per ton, net or gross, as rated. In line with the authorized advance on iron and steel articles, aluminum (ingot, pig, or slab) takes the 20 per cent increase subject to a maximum of 10 cents per 100 lb., but not in excess of $2 per net or gross ton as rated. Other products of aluminum also take the 20 per cent increase, but the upper limit there is 12 cents per 100 lb. or $2.40 per net or gross ton as rated. Several other commodities get similar special treatment.

The 15 per cent increase authorized for agricultural products is to be applied "to each one-factor rate, including proportional and reshipping rates, and to each factor of a multiple-factor through rate, with the understanding that as soon as practicable, the carriers will readjust resulting rates to restore rate relationships and market, gateway, and port equalizations, to adhere to rate-break principles now in effect, such readjustments to reflect an average increase as closely equivalent to a 15 per cent increase in revenue as may be practicable." With respect to other traffic moving on multiple-factor rates only a single increase is authorized for application to the entire through rate.

Other phases of the decision authorize increase of 25 per cent in all-commodity freight rates and in rates and charges on freight in truck bodies; charges for switching, including intraplant and intraterminal switching, whether or not absorbed by line-haul carriers; charges for collection and delivery service; rates and charges for special train, trap- and ferry-car, and crane service, and for handling railway equipment on its own wheels; rates and charges for handling commodities (except milk and cream) in baggage or passenger-train service, including excess baggage but excluding corpses; and rates and charges for accessorial terminal services such as storage, handling, loading, reconsignment, diversion, transits, weighing, etc.

No Demurrage Increase

In the latter finding it is stipulated that no increase in demurrage charges is authorized, and the increases are not to be applied to charges for handling, loading or unloading export, import, coastwise, or intercoastal traffic which do not affect the measure of the line-haul rates and are not in addition to the line-haul rates.

Fifteen per cent increases are authorized in rates and charges on milk and cream in passenger and freight service, including all commodities listed in the applicable basic milk and cream tariffs; in rates and charges for protective services to perishable freight; and in the charges terminal railroads make to the line-haul roads for the loading and unloading of live stock at public stockyards. These increased stockyard charges, the finding continued, "should be absorbed, or otherwise paid, by the railroads performing the line-haul transportation, except when they accrue for unloading or reloading en route at the request of the shipper, consignee, or owner, or to try an intermediate market, or to comply with quarantine regulations."

Charges for loading or unloading provided in section 2 of Consolidated Classification Rule 15 may be increased to 5 cents per 100 lb., while minimum charges per shipment may be increased to $1, except on single shipments of milk and cream. Minimum charges per car in line-haul service, as provided in Consolidated Classification Rule 13 and corresponding rules in other tariffs, may be increased to $20, and minimum line-haul rates where pick-up and delivery services are included may be increased to 50 cents, the same as the temporary advance authorized in the interim report.

International Rates

As to joint international rates, the commission found that the rates to and from Canada or Mexico "may be increased to the same extent and in the same manner as is here authorized within the United States." It added that where rates on international traffic are made by use of combinations on the international border, the factor within the United States to or from the international border may be increased in the same manner as other U. S. rates.

The report authorizes publication of initial increases on export, import, coastwise, and intercoastal traffic in the same amounts as on all-rail rates; but this authorization is "predicated upon the assumption that after the increases become effective such rates will be revised promptly by specific publication to restore recognized port relationships, if such adjustment cannot be made simultaneously with publication of the increases." A like finding is made with respect to the initial publication of rates with ocean, lake, and inland waterways carriers, where it is expected that existing differentials "in cents per 100 lb. or other unit" will be promptly restored. Also, the increases may be applied by the rail and water carriers to joint rates with motor carriers.

Remaining findings give the commission's views with respect to how the increases should affect arrangements for absorption of switching charges and divisions, and set out a rule for the disposition of fractions. Finally, there is the grant of the fourth-section and other relief necessary to clear the way for the short-notice tariffs making the authorized increases effective.

Eastman Quoted

The greater part of the commission's report, which occupied 65 mimeographed sheets, was devoted to a discussion, by commodity groups, of presentations made with respect to the increases proposed by the railroads. There was only a brief "conclusions" section wherein the commission found the "difficult problem" before it analogous to the one it faced in framing its railroad consolidation plan. Also, it took occasion to quote from the late Commissioner Eastman's concurring opinion in the 1920 rate-increase case.

"What we do," the report said, "will directly affect production and distribu-

tion in the industries of the nation, and the welfare of its various regions, as well as the transportation industry. It will have its effect upon the forces tending to economic stabilization or the reverse. No case has ever received from us more earnest study. What was said in dealing with another difficult problem of great importance may be repeated here (*Consolidation of Railroads,* 159 I. C. C. 552 at page 524):

In a matter of this magnitude in scope and complexity in detail, even after the most careful study and the fullest and freest exchange of views by those charged with the duty of preparing this plan, there must remain many differences of opinion as to the several component parts, both large and small, comprised in the final result. Such is here the case. While a clear majority of us, although not always the same majority, have agreed as to each part of the plan proposed, not all of us have agreed as to all parts, but all concur in the result. . . .

"When in 1920, shortly after the close of federal control of the railroads, we were dealing with a situation in many ways comparable with that now presented, the late Commissioner Eastman in concurring in our authorization of large increases in freight rates and passenger fares, made certain observations which are forceful here. He said in part (*Increased Rates, 1920,* 58 I. C. C. 220, at page 258):

Summing the matter up, conditions are critical and they have not been made less so by the transition from federal to private control. The evil of poor service we have with us, and it is certain that the health of the nation will suffer seriously unless this evil is cured. It is my best judgment that the railroads cannot function successfully without materially increased rates, and I am also persuaded that it is in the best interest of the country that the present plan of operation should receive without delay the best test that can be given it. Under all the circumstances, it follows that it would be a mistake if the railroads were now accorded rates designed to produce substantially less revenue than their responsible executives with unanimity assert that they need in order that good service may be provided. What revenue will actually be produced no one can tell. If the rates prove unduly high, they may later be reduced. The present proceeding has nothing of finality about it and in many respects is similar to a suspension case, where the question is whether or not certain proposed rates shall be permitted to take effect without suspension, a matter left by the act to the discretion of the commission.

Basic Finding

The commission's basic finding was that the increases approved were necessary "for the carrying out of the purposes of the national transportation policy, and the development, coordination, and preservation of a national transportation system adequate to meet the needs of commerce, the postal service, and the national defense, and in order that freight rates and charges shall be such as to move the greatest volume of traffic, while providing adequate and efficient transportation at the lowest rates consistent with the furnishing of such service, and to enable the petitioning carriers by railroad and by water under honest, economical, and efficient management to provide such service."

Before getting into its discussion of the evidence by commodity groups, the report had got under way with a brief review of the history of the proceeding. There it is asserted that "every effort was made to enable all concerned to adduce the facts essential to the present determination, with all proper speed, and with regard to simplicity and convenience of procedure."

Coming to its consideration of the financial position of the carriers, the commission noted that the revised railroad estimate submitted at the further hearing was somewhat more favorable than the figures offered at the hearing preceding issuance of the interim report. It indicated a 1946 net railway operating income (after tax credits and including the interim increases) of $547,000,000, and a net income of $203,000,000. The commission's tests of these figures indicated that they involved "no very significant under-estimation of revenues."

Estimated 1947 Results

On the same basis, except that there was no tax-credit factor, the indicated 1947 results would be a net railway operating income of $117,000,000 and a deficit in net income of $225,000,000. Substituting an estimated revenue increase of one billion dollars for the interim advance, the 1947 estimates indicated a net railway operating income of $592,000,000 and a net income of $247,000,000. This estimated net income, plus probable tax credits of $5,000,000, the commission calculated, would be 37.1 per cent of the average net for five years, 1941 to 1945, 34.1 per cent of the average for the five years, 1926 to 1930, 50.4 per cent of the average for the five years, 1921 to 1925, and 53.7 per cent of the average for the 7 years, 1911, to 1917. "It is," the report added, "about 33.4 per cent higher, however, than the net income for the year 1940, which produced the highest net income in the 10-year period, 1931 to 1940."

Meanwhile, the commission recognized that while the railroad petition contemplated only a billion dollars a year in additional revenue, the carrier presentation showed that wages and other costs had increased since 1939 by $2,176,240,000. "The petitioners' estimates," the report added, "are predicated upon the assumptions that wages and prices of materials and supplies in effect April 15, 1946, will continue in effect, and that maintenance expenses were normal for all but six of the 30 roads whose estimates were used in computing total amounts for all class I railroads. Any substantial changes in wages, prices of materials and supplies, and maintenance expenses will materially affect their estimates for 1947 operations."

Looking over an Office of Price Administration compilation in that connection, the commission conceded that it indicated a decline in prevailing yields on representative securities in 1945 as compared with 1922. At the same time the commission pointed out that it has a duty to consider things other than the cost of transportation service to the public in that it must also look into the needs of the carriers for adequate revenues. It proceeded to discuss the railroad 1946 and 1947 estimates by districts, indicating in such discussion why it had granted the larger increases to the Official-territory roads.

"On the basis of the interim rates in effect since July 1, 1946," the report said, "the rate of return for the Eastern district will be considerably less for 1946 than in the Pocahontas region, or the Western district, even though an additional increase of 5 per cent in certain rates in Official territory was authorized and has been in effect since July 1, 1946. It also appears that even on the basis of the increases sought in Ex Parte No. 162 and the railroads' estimates of revenue, the rate of return in the Eastern district for 1947 will be less than the rate of return in the Pocahontas region, the Southern region, or the Western district."

Effect of Land-Grant Repeal

With respect to contentions that the railroad estimates of operating expenses were too high in that they failed to allow for increased efficiency of operation, the commission said that while "no one would be disposed to deny the long-term increase in efficiency," increased efficiency within shorter periods, "or its reverse," is "in a large degree a function of the volume of traffic." As to the effect of the law eliminating land-grant rates, which became effective October 1, the commission looked over available estimates and concluded that result in 1947 would be increased revenues of about $40,000,000.

The report's brief general statement with respect to the positions of the intervenors pointed out that these parties in many instances stated frankly that rate relationships were more important to them than the amount by which the rates might be increased.

The commission said that its findings reflected the fact that "these important

(*Continued on page 1003*)

First new L. & N. streamliners since the war, the "Humming Bird" and the "Georgian", go into service between Cincinnati and New Orleans, St. Louis and Atlanta—Four sets of equipment to make the runs

The "Humming Bird"

The "Old Reliable" Starts Something New

EARLY one morning, a locomotive and some cars roared out of the station at Big Shanty, Ga., on one of the most memorable runs in history. The date was April 12, 1862, and the locomotive was the "General," carrying Andrews' raiders on their audacious mission of stealing a train and using it to assist them in crippling what was then the Western & Atlantic, and is now the Nashville, Chattanooga & St. Louis.

On November 17, 1946, another locomotive and some cars roared past the station at Big Shanty on another memorable run. This time, more than 84 years later, it was the sleek new "Georgian," the fast streamliner of the L. & N.-N. C. & St. L., operating between St. Louis, Mo., and Atlanta, Ga. The little, old "General" has a place of honor in the N. C. & St. L. station at Chattanooga, Tenn., and, as the "Georgian" paused in Chattanooga on its initial run, the contrast between the tiny "tea-kettle" and the large Diesel-electric at the head of the new train gave mute, but striking, evidence of railway progress in the eight and a half decades.

The two new "Georgians," together with the two new "Humming Birds" inaugurated on the same date, are also symbols of something more than railway progress.

As the first of the new post-war streamliners to be run in the Southeast, they indicate the faith of the managements of the L. & N. and the N. C. & St. L. in the future of the territory they serve. They are symbolic of the re-awakening that has come to the Southland and of the increasing industrialization and prosperity that has come to that highly important section of the United States.

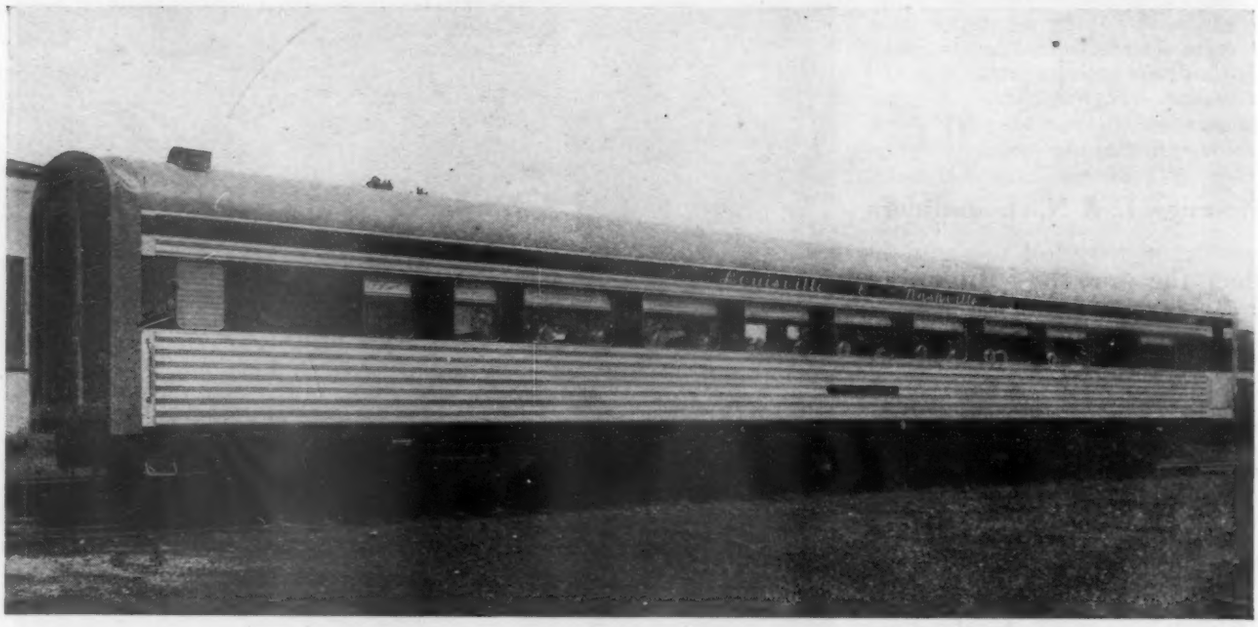
Progress in the South

World War II brought many military encampments to the area, because the mild climate was conducive to more intensive troop training. The war also brought a large number of new industries to the Southeast and the people and the railways of that section have dedicated themselves to progress to a truly remarkable degree.

These trains are evidence of the new spirit of enterprise which dominates the entire area which they serve. The striking color scheme of their exteriors and the modernity and luxury of their interior arrangements speak eloquently of progress.

The "Georgians" operate over the L. & N. between St. Louis and Nashville and over the N. C. & St. L. between Nashville and Atlanta, a total distance of 611 miles. There are morning departures and evening arrivals at both terminals, on a schedule of just under 13 hours, including intermediate stops at East St. Louis, Ill., and Mount Vernon; Evansville, Ind.; Henderson, Ky., and Hopkinsville; and Nashville, Tenn., and Chattanooga. The fastest previous through service was 18 hr. and 5 min. Thus, the "Georgian" not only supplies the first through daylight service, but also cuts some five hours from the running time.

The "Humming Bird" operates entirely over the L. & N. between Cincinnati and New Orleans, 922 miles, and departs from each terminal about noon, arriving at the opposite terminal early the following morning. Its actual running time is also fast, in view of the much greater number of intermediate stops, 13 in each direction. The schedule of 19 hr. compares with the previous fastest time of 23 hr. 30 min. on the L. & N. between these two points.



The color scheme of all the cars is a near-royal blue on the letterboards and window panels. Aluminum flutings are used on the sides.

Louisville & Nashville Streamliners

American Car & Foundry Co. builds four seven-car trains with many refinements in design and appointments, including electro-pneumatic brakes with Decelostat and speed-governor control; fluorescent lighting used extensively

THE Louisville & Nashville has acquired from the American Car & Foundry Co. four seven-car trains, all designed by the builder and styled by its Department of Industrial Design. Known as the "Humming Bird" and the "Georgian", these coach streamliners operate between Cincinnati and New Orleans and, in conjunction with the Nashville, Chattanooga & St. Louis, between St. Louis and Atlanta. Each train consists of one partition coach, four de luxe coaches, a dining car and a tavern-lounge car.

By the use of aluminum alloys the shell weights of the cars were reduced approximately 34 per cent under equivalent cars of conventional steel construction. The cars have straight ends, the space between them being closed with rubber outer diaphragms. The total seating capacity of the passenger-carrying cars is 298, with 48 additional seats in the diner and 52 in the tavern-lounge car. Each car is independent as far as its equipment is concerned and meets all Association of American Railroads interchange requirements.

The trains are designed to appear as a unit streamlined trains; this effect is aided by the exterior color treatment of near-royal blue in continuous horizontal panels the full length of the trains and by anodized aluminum flutings, also continuous, above and below the windows. The interior design is bright, attractive and colorful, the treatment of the cars varying in different harmonious schemes to overcome monotony.

The coaches seat 60 passengers in individual reclining and revolving seats arranged to take complete advantage of the full-vision 60-in. windows. They have wide, roomy and closed luggage racks with individually controlled fluorescent lighting at each seat, recessed in the lower portion of the luggage racks. The general car illumination is from specially designed fixtures recessed in the ceiling and giving light directly in the aisles. A loud-speaker system for music and announcements is provided in each coach as well as in the diners and tavern-lounge cars. There are large and spacious lounge rooms for men and women complete in every detail, including stainless-steel-encased twin lavatories with soiled towel space beneath, large mirrors and a vanity for women passengers.

Interior Color Scheme

The interior color scheme of the coaches has been developed in varying shades of red and brown. The rich brown-and-green asphalt-tile floor covering is in 9-in. squares. Soft henna in the upholstery, working into a plum shade at the waincot, and rose bulkheads are set off by a pale ivory ceiling. The window panels are of anodized aluminum with delicate beige drapes between the windows. Soft shades of green are used in the men's lounge and salmon in the women's lounge, with dark green curtains lending added privacy. Each lounge has a deep-cushioned sofa, the men's being upholstered in a reddish brown and the women's in chartreuse.

An electric water cooler is recessed in the end partition of the men's lounge at one end of the passageway. Nearby is a roomy compartment for the storage of hand luggage, with ample pillow-storage space immediately above. In each coach, located on the partitions at each end of the passenger compartment, are enlarged individual photo murals of points of interest in the country traversed by the L. & N. Each has a caption and is bordered by an aluminum molding.

The partition coaches are a counterpart of the de luxe coaches. They are arranged to seat 58 passengers, with 10 seats for colored passengers in a lounge section complete with individual lounge chairs, console radio, reading lamp, magazine rack, etc. The lounge section is set apart from the remainder of the car by an aluminum grille.

At the forward end of each diner is a completely equipped kitchen and pantry. Both the passageway and the pantry open into a half-circular foyer, affording access to the dining compartment, which is a departure from customary dining-car design. This foyer has a full-height etched mirror on the pantry wall, while the sides are made up of silver and utility lockers as well as a bar refrigerator.

The Dining Cars

The dining room has seats for 48 passengers arranged around 12 tables at wide full-vision windows. In the partitions at each end of the dining room are full-length plate-glass mirrors. The ceiling is beamed at the sides. The beams terminate in vertical wings which project out from the faces of the partitions. The loud speakers are concealed behind these projecting surfaces.

Illumination is effected by fluorescent lighting in continuous troughs arranged above the windows and by flush-type rectangular fluorescent lights recessed in the conditioned-air ducts.

The dining-car color scheme is built around harmonious and varying shades of reds and browns, with fawn-colored upholstery and rich-hued dark maroon carpeting, all blending into ivory walls and ceiling. There are cocoa drapes at the sides of the windows.

The Tavern-Lounge Cars

These cars are arranged in two sections, the lounge section seating 28 passengers and the tavern section, 24. These sections are separated by a completely-equipped curved bar. At the tavern end of the car are men's and women's washrooms, together with lockers and a train conductor's office which houses the train loud speaker and amplifier-system controls.

The lounge presents an interesting grouping of deep lounge chairs and two-place sofas, the room being divided by glass partitions to form three intimate groupings rather than one large lounge.

The tavern section has four built-in brown-leather-upholstered horseshoe-shaped seats at each end, and comfortable seats for four passengers arranged around tables on each side of the car. This section is set apart from the bar area by an etched figured-glass partition.

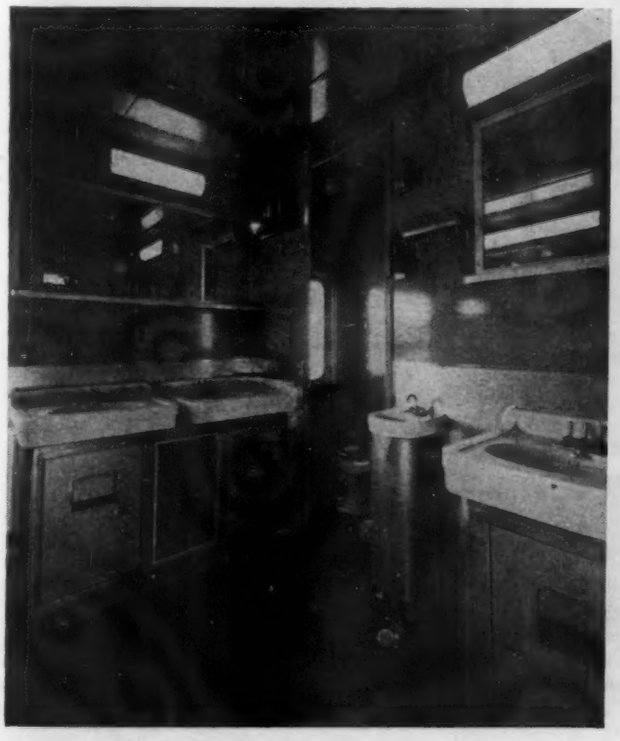
The color scheme is warm and pleasant, including shades of red in the carpeting with chartreuse and rust in the lounge chairs. The wainscot is light green, working into a lighter green at the piers and frieze and terminating in a cream ceiling.

Car Construction

All cars embody the same basic shell construction and exceed the design requirements of the U. S. Post Office Department specifications and the A. A. R. specifications for the construction of new passenger equipment. The carbody framing materials are aluminum alloys with the exception of the bolsters, crossbearers and end sills which are of high-tensile alloy steel. The integral buffer castings which extend through the bolster are of unit cast steel. Special extruded alloy sections are used for many of the members, their straightness and uniformity proving of much benefit in the side- and roof construction. The sides and roof are assembled in jigs before application to the structure.

The center sills are of built-up aluminum-alloy construction and are con-

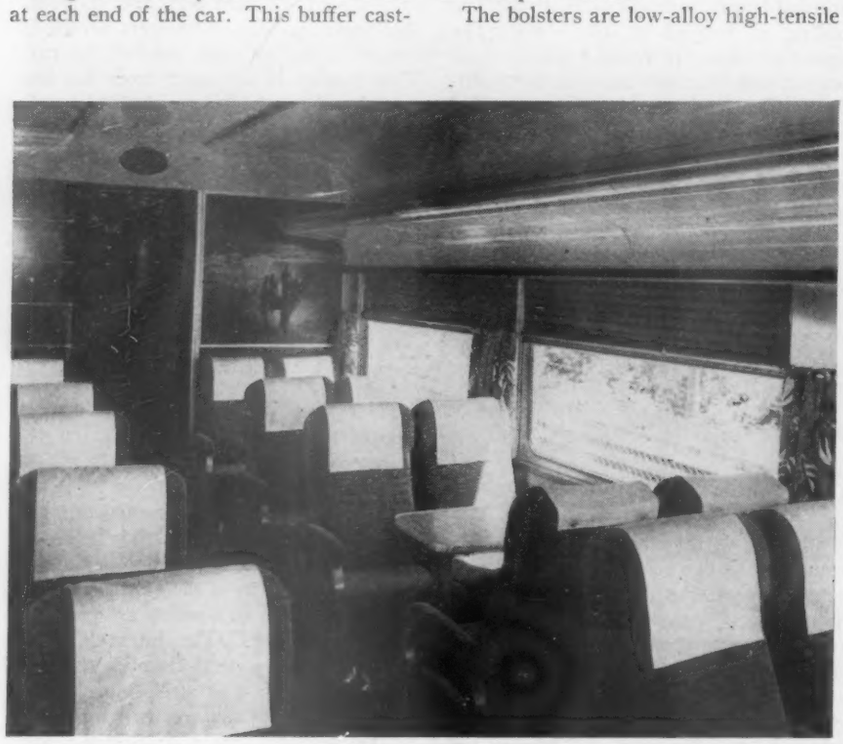
Right—The appointments in the ladies' lounge. Below—The men's lounge



nected to the combined cast-steel buffer casting immediately behind the bolsters at each end of the car. This buffer casting also combines the draft-gear pocket and coupler carrier.

The bolsters are low-alloy high-tensile steel of built-up welded construction. The crossbearers are also of the same type of construction with top and bottom cover plates and pressed diaphragms. The floor beams are aluminum-alloy pressed pan shapes.

The car side frames are of girder construction designed to carry the live and dead loads, and the vertical reactions from the bolsters and crossbearers under buffing loads. The side sills are special extruded aluminum-alloy sections. The side posts are aluminum alloy Z-shaped extrusions and are attached to the side sill at two points. The inside flange of the Z-section post is riveted directly to the sill. The outside flange of this post is formed inside the vertical flange of a T-section and is riveted to its vertical flange. The T-section is in turn connected to a horizontal projection of the extruded side sill by riveting.



Aluminum Alloys Used

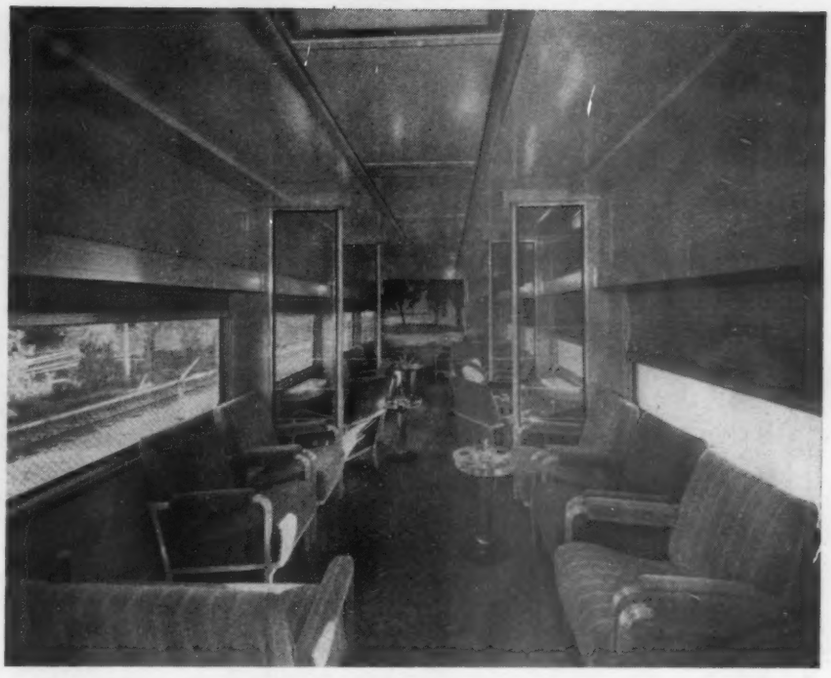
The side plates comprise two aluminum-alloy angles riveted together. The belt rail construction includes extruded aluminum-alloy channel shapes applied between posts with a continuous inside flat bar above and below the windows.

Continuous extruded anodized aluminum flutings are riveted to the side sheets, side posts and belt-rail extrusions below the windows. All are arranged

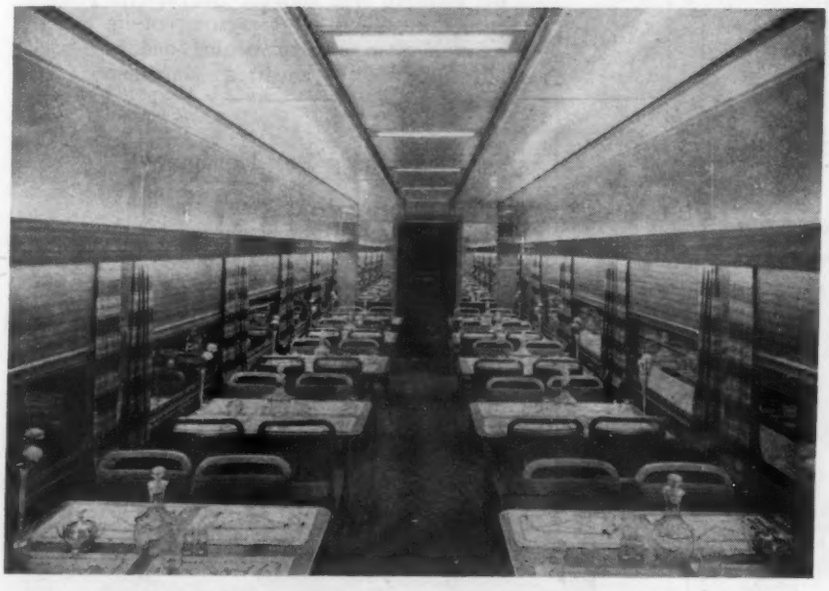
Above: Interior of one of the coaches. Below: Two of the 2,000-hp. Electro-Motive Diesel-electric locomotive units. Single units haul the "Humming Birds" and the "Georgians."

to receive intermittent anodized snap-on aluminum extrusions to hide from view the horizontal rows of attachment rivets. Similarly constructed flutings, used above the window openings, extend the full length of all the cars and terminate in matching cast-aluminum anodized fluting end covers at the ends of the cars. The apparent continuity of the flutings through all the cars is further made possible by the use of aluminum bronze lacquer from the termination of the flutings to the ends of the cars.

The side sheets, letterboards and pier panels are aluminum-alloy. The skirts, also of aluminum alloy, are spotwelded to stiffener supports and applied to the underside of the side sills of all cars. They are cut out at the trucks for clearances on curves and for maintenance and inspection. Removable and hinged doors are installed for access to the batteries and underneath equipment.



Right—The lounge section of the tavern-lounge car. Below—The dining car



The end-frame construction comprises two extruded aluminum alloy H-beam-section diaphragm posts with web thickness reinforced where necessary to meet A. A. R. shear resistance requirements at all points. The posts extend into pockets in the buffer castings and are held at the top by the anti-telescoping construction consisting of an aluminum channel at the blind ends and truss-girder construction at the vestibule ends which includes the vestibule ceiling and its aluminum-angle stiffeners.

The intermediate end posts are aluminum-alloy rolled Z-shapes; the corner posts are special extruded aluminum sections, each of which is backed up with an aluminum triangular pressed-pan diaphragm which is riveted to the corner posts and in turn to the side sills.

The roof frame is of aluminum-alloy extruded Z-section carlines combined with five purlines of similar section. The roof sheets and rivets are also aluminum alloy.

The longitudinal floor stringers in the underframe construction are aluminum-alloy Z-shapes supported by underframe cross members, with aluminum false floor sheets beneath, attached to the cross members and side sill extrusions. The space above this sheet is filled with Stonefelt or Fiberglass insulation. Keystone floor sheets 5/8-in. high are applied to the top of longitudinal members, the upper grooves being filled with light-weight Tuco composition flooring on which is laid Armstrong asphalt tile, or carpeting with Ozite carpet padding beneath.

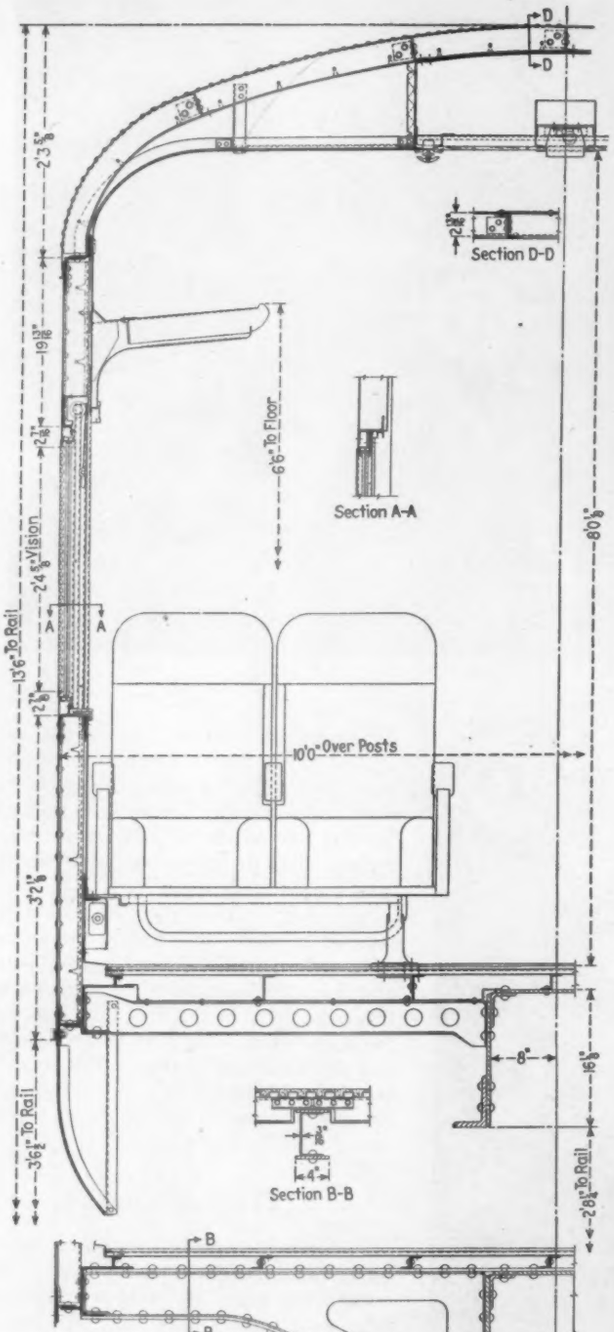
Stonefelt or Fiberglass insulation is secured in place by wires in the sides, ends and roof of the car. It is 2½-in. and 3-in. thick in the sides, 2½-in. at the ends, 3 in. in the roof and 2 in. in the floor between the bottom floor sheet and the Keystone flooring. Anti-squeak tape is used between the inside finish and the car framing at all points to avoid direct metallic contact.

The Vestibules

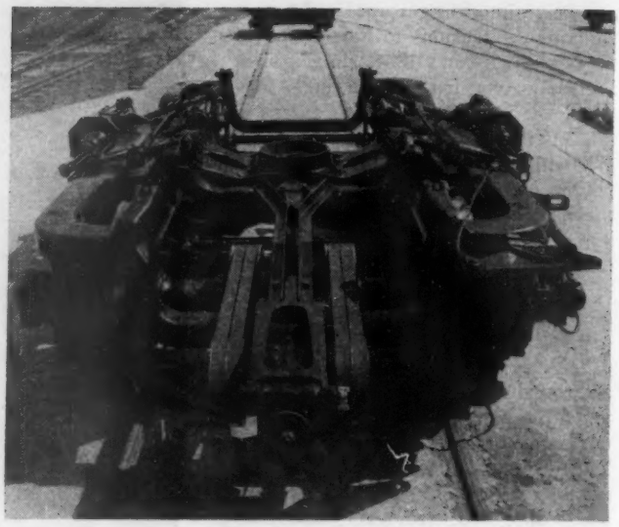
Fire-proof canvas vestibule diaphragms, vestibule curtains and aluminum tail gates are used on all cars. The trap doors are of aluminum, covered with stainless-steel Super-diamond floor plates. They operate in conjunction with the folding steps which form a continuous line with the side skirts when closed.

Both ends of all cars have sheet-rubber closures which follow the outside contour of the car and form continuous surfaces between coupled cars. The side sections of the closure face-plate construction are hinged to the center sections, which in turn are supported by suspension rods to the car body. Semi-elliptic upper buffer springs and coil springs hold the face plates in contact.

The handholds and safety appliances in the vestibules and on the sides of the



Cross section through the body of one of the coaches. Crossties, cross-bearers and bolster construction are shown



The General Steel Castings Corporation trucks have shock absorbers, rubber-cushioned bolster anchor rods and bolster roll stabilizers. The frames, equalizer and bolster springs are of alloy steel

cars are polished stainless steel to match the anodized side flutings. Stirrup-type corner steps on all cars are hot-dip galvanized to prevent rusting and to harmonize with anodized aluminum exteriors.

Kitchen and Bar Equipment

All kitchen interior finish, furnished by the Universal Manufacturing Co., is of stainless-steel construction. The range burns coal, and there is a charcoal broiler. To insure a high degree

Entering the dining room from the semi-circular foyer

of sanitation, triple sinks are installed complete with electric dish washers and glass washers arranged for bactericidal treatment. Mechanical, water-ice, and dry-ice refrigeration are all used to allow each food to be kept at the temperature to which it is best suited.

Kitchen ventilation is furnished by a motor-driven double exhaust blower over the range. Fresh air to the kitchen and pantry is taken in through a hooded opening in the car roof above the side plate, and then through a filter, by a three-speed intake fan located above the pantry ceiling. The air is tempered to the desired temperature by a heating coil and passes through a Sterilamp bacterial removal enclosure, from which it is distributed through two Anemostats in the pantry and a grilled duct in the kitchen.

Dimensions of the Equipment

Length, coupled, ft.-in.	85-0
Truck centers, ft.-in.	59-6
Truck Wheelbase, ft.-in.	8-6
Width over side posts, ft.-in.	10-0
Distance from rail to top of roof, ft-in.	13-6
Lightweights, lb.:	
Coaches	112,750
Partition Coach	114,200
Dining Car	124,800
Tavern-lounge	114,750

The tavern-lounge bar, fabricated by Angelo Colonna, Philadelphia, Pa., is complete with mechanical refrigerator, electric glass washer, coffee maker, stainless steel sinks, chill box, ice well, folding wash basin with hot and cold water connections, and a work top under the bar with ample storage capacity.

Lighting and Air Conditioning

All cars have Safety 20-kw. underframe axle-light equipment with gear drive and V-belts. Batteries of 1,000 amp.-hr. capacity are used. The lighting fixtures are principally fluorescent.

A 1,200-watt capacity motor-alternator is located under the coaches and one of 2,000-watt capacity in the diners and tavern-lounge cars to supply 110-volt current for fluorescent lighting. Janette converters on the partition coaches and tavern-lounge cars furnish 110-volt a.c. from 32-volt d.c. for the radios. A vibrator-type converter furnishes 110-volt ac. from 32 volt d.c. for electric shavers in the coaches. Dishwasher, coffee makers, etc., operate on 32-volt d.c. current from generator or batteries.

All cars are equipped with Safety-Carrier steam ejector air-conditioning systems of seven-ton refrigeration capacity mounted under the car. Conditioned air is distributed in the main compartments through safety air diffusers, the ducts having hinged covers for periodic cleaning, and in the coach lounges through Anemostats. Tuco type G-3 deodorizer air-recovery panels are mounted above the recirculated-air grills in all cars.

The heating equipment includes heat-tempering coils in the air-conditioning units and the latest unit fin-type floor heat; all are complete with thermostatic and remote manual controls, steam end valves, steam couplers and flexible con-

Partial List of Materials and Equipment for the Louisville & Nashville Streamlined Trains

Aluminum shapes, plates, sheets, castings, and outside snap-on mouldings	Aluminum Company of America, Pittsburgh, Pa.
Steel castings	Sterling Steel Castings Co., Monsanto, Ill.
Cor-Ten steel	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Stainless steel	Allegheny Ludlum Steel Corp., Brackenridge, Pa.
	Armco Railroad Sales Co., Middletown, Ohio
	Crucible Steel Company of America, New York
Truck frames, cast-steel	General Steel Castings Corp., Eddystone, Pa.
Wheels	Armco Railroad Sales Co., Middletown, Ohio
Springs	Crucible Steel Company of America, New York
Axles	Bethlehem Steel Co., Bethlehem, Pa.
Upper buffer spring	Standard Railway Equipment Mfg. Co., Chicago
Buffer castings	General Steel Castings Corp., Eddystone, Pa.
Draft gear	Waugh Equipment Co., New York
Couplers and yokes	National Malleable & Steel Castings Co., Cleveland, Ohio
Bolster locking center pin	W. H. Miner, Inc., Chicago
Side bearings	American Steel Foundries, Chicago
Shock absorbers	Monroe Auto Equipment Co., Monroe, Mich.
Roller-bearing wheel units	Hyatt Bearings Div., General Motors Corp., Harrison, N. J.
Sound deadening pads	Fabreeka Products Co., Boston, Mass.
	United States Rubber Co., New York
Electro-pneumatic brakes	Westinghouse Air Brake Co., Wilmerding, Pa.
Simplex clasp brakes	American Steel Foundries, Chicago
Hand brakes	W. H. Miner, Inc., Chicago
Brake shoes	American Brake Shoe Co., New York
Diaphragm rubber	B. F. Goodrich Co., New York
Vestibule curtains	Morton Mfg. Co., Chicago
Trap doors	O. M. Edwards, Inc., Syracuse, N. Y.
Threshold plates	American Abrasive Metals Co., Irvington, N. J.
Weatherstrip	Harnley Weatherstrip Co., Chicago
	United States Rubber Co., New York
Fiberglas insulation	Gustin-Bacon Mfg. Co., Kansas City, Mo.
Stonefelt insulation	Johns-Manville Sales Corp., New York
Doors:	
Inside	Haskelite Mfg. Corp., Chicago
Outside	American Car & Foundry Co., New York
Door springs	American Spiral Spring & Mfg. Co., Pittsburgh, Pa.
End door hinges	Loeffelholz Co., Milwaukee, Wis.
End door locks	Dayton Mfg. Co., Dayton, Ohio
Locks	Yale & Towne Mfg. Co., Stamford, Conn.
Door closures	Russell & Erwin Mfg. Co., New Britain, Conn.
Masonite	Masonite Corp., Chicago
Plymetl	Haskelite Mfg. Corp., Chicago
Anti-squeak tape	Armstrong Cork Co., Lancaster, Pa.
Preheat coil	Aero Fin Corp., Chicago
Stainless-steel tanks	Alpha Tank & Sheet Metal Mfg. Co., St. Louis, Mo.
Composition flooring	Tuco Products Corp., New York
Keystone floor	American Car & Foundry Co., New York
Floor covering	Armstrong Cork Co., Lancaster, Pa.
Sash	Hunter Sash Co., Flushing, N. Y.
Glass	Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Pressed prism safety glass	Pressed Prism Plate Glass Co., Morgantown, W. Va.
Window curtains	Adams & Westlake Co., Elkhart, Ind.
Formica	Formic Insulation Co., Cincinnati, Ohio
Reclining seats	Coach & Car Equipment Co., Chicago
Sofas, chairs, and tables	General Fireproofing Co., Youngstown, Ohio
Drapery materials	F. Schumacher & Co., New York
Carpeting	Bigelow-Sanford Carpet Co., Inc., New York
Bar	Angelo Colonna, Philadelphia, Pa.
Murals	Drix-Duryea, Inc., New York
Ash stands and serving trays	Marshall Field & Co., Chicago
Ash receivers	Adams & Westlake Co., Elkhart, Ind.
Parcel racks	Safety Car Heating & Lighting Co., New York
Kitchen range and steam table	Stearnes Co., Chicago
Kitchen and pantry equipment	Universal Mfg. Co., St. Louis, Mo.
Dish washer	Surgex Mfg. Company, Oakland, Calif.
Drinking-water cooler	E. A. Lundy Company, New York
Water purifier	Tested Appliance Company, Chicago
Batteries	Electric Storage Battery Co., Philadelphia, Pa.
	Gould Storage Battery Co., Depew, N. Y.
Charging receptacles	Pyle-National Company, Chicago
Axle lighting equipment	Safety Car Heating & Lighting Co., New York
Lighting fixtures	Luminator, Inc., Chicago
	Safety Car Heating & Lighting Co., New York
Electric wire	Okonite Company, Passaic, N. J.
Electric conduit and fittings	Appelton Electric Co., Chicago
	Thomas & Betts Co., Elizabeth, N. J.
Motor generator set (for radio)	Pyle-National Company, Chicago
Converter, vibrator type	Janette Mfg. Co., Chicago
Air-conditioning equipment	Electronic Laboratories, Inc., Indianapolis, Ind.
Air diffusers (in coach lounge)	Safety Car Heating & Lighting Co., New York
Radio and amplifier equipment	Anemostat Corp. of America, New York
	Jensen Radio Mfg. Co., Chicago
	Stromberg-Carlson Co., Rochester, N. Y.
Exhaust fans	Walter Ashe Radio Co., Chicago
Exhaust ventilators	Diehl Mfg. Co., Somerville, N. J.
Uni-flo grilles	Railway Utility Co., Chicago
Heating equipment and air-conditioning controls	Barber-Colman Co., Rockford, Ill.
Train connectors	Vapor Car Heating Co., Chicago
Folding washstands	Pyle-National Company, Chicago
	Adams & Westlake Co., Elkhart, Ind.
Flush hoppers	Rollson, Inc., New York
Lavatories, pipe fittings	Duner Company, Chicago
Copper pipe and fittings	Crane Co., Chicago
	Chase Brass & Copper Co., Waterbury, Conn.
Pipe insulation	Mueller Brass Co., Port Huron, Mich.
Motor alternators	Johns-Manville Sales Corp., New York
Car oil	Safety Car Heating & Lighting Co., New York
Fire extinguishers	Texas Company, New York
Paint, exterior	Pyrene Mfg. Co., Newark, N. J.
Tanks	E. I. du Pont de Nemours & Co., Wilmington, Del.
Sterilamp enclosure	Scaife Company, Oakmont, Pa.
	J. T. Sexton Company, Kansas City, Mo.

duits. Vapor hot-water heating specialties are installed.

All cars have Westinghouse H. S. C. electro-pneumatic brakes with D-22 control valves and speed-governor control. On one end of each axle on the side opposite the speed governor is the A. P. Decelostat equipment to prevent actual wheel sliding. Both ends of all axles have hardened spline bushings for these applications.

Each truck has two Westinghouse 12-in. by 10-in. U. A. H. S. brake cylinders centrally located, one on each side, and clasp-brake equipment with two standard brake shoes per wheel. One Miner Ideal Safety hand brake is located at the vestibule end of the vestibule cars and a Miner wheel-type brake at one end of each of the blind-end cars.

National tight-lock couplers with Waugh rubber-cushion-type draft gears are used throughout.

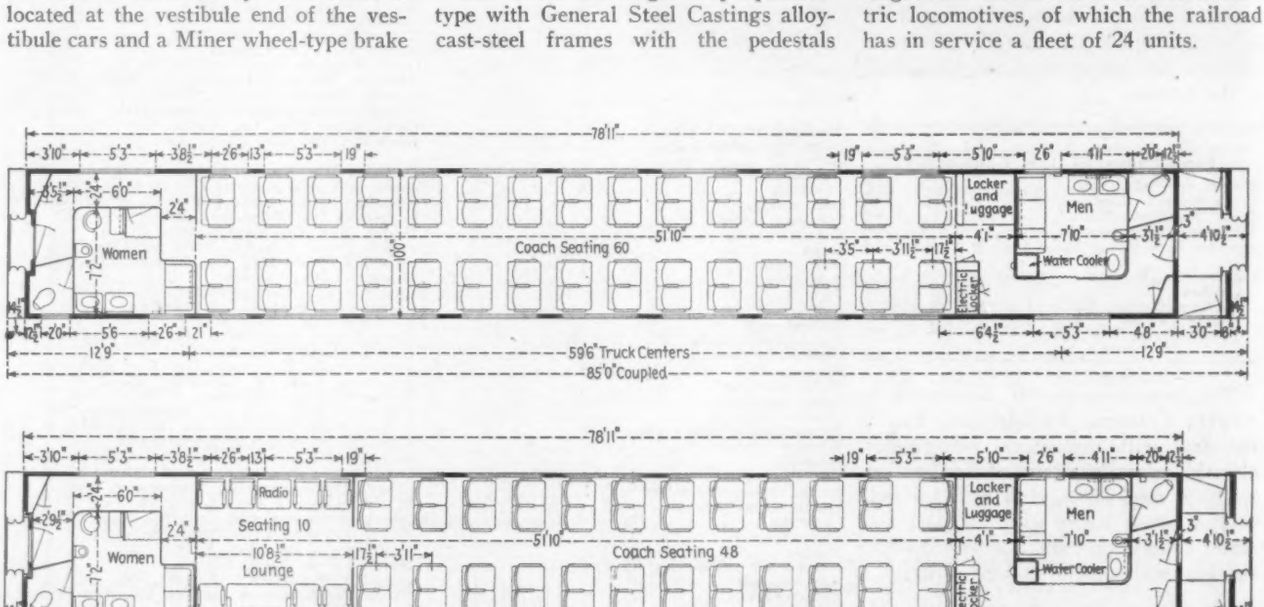
Truck Design Features

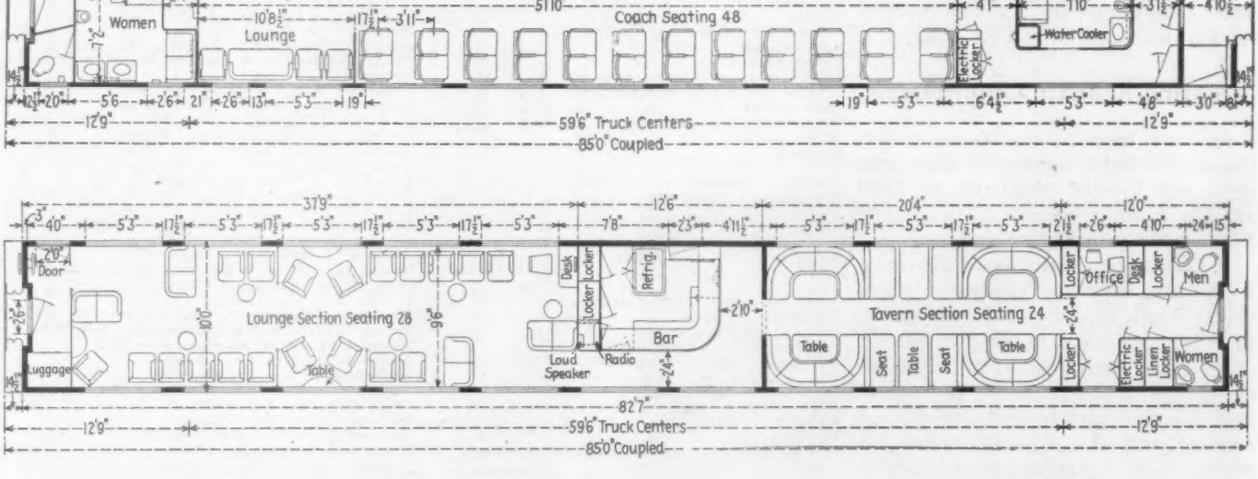
All cars have four-wheel trucks with an 8-ft. 6-in. wheel base and 5½-in. by 10-in. journals with 13⅜-in. pedestal openings for Hyatt journal boxes and bearings. The 36-in. stress-resistant multiple-wear wrought-steel wheels are tread ground after mounting for the better riding qualities that result from concentric treads.

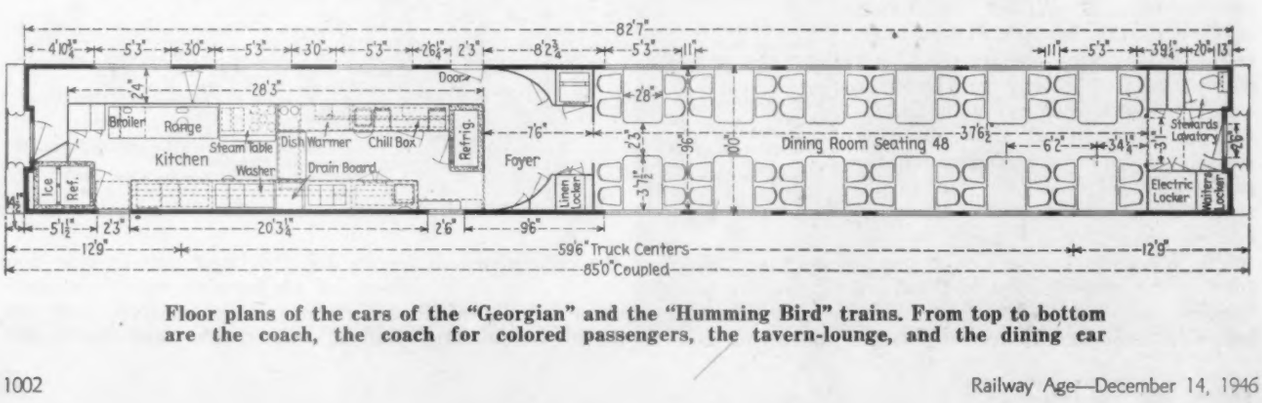
The trucks are single drop-equalizer-type with General Steel Castings alloy-cast-steel frames with the pedestals cast-integral. Both equalizer and bolster springs are of alloy-steel helical coil design. Monroe shock absorbers control the vertical motions and the truck bolsters are restrained longitudinally by rubber-cushioned bolster anchor rods. Lateral sway is controlled by bolster roll stabilizers which replace the conventional spring planks.

Sound deadening materials are used at the bolster springs, truck center plates and body side bearings to isolate truck noises from the car body, and at moving parts of the coupler and the diaphragm face-plate mechanism.

These trains are hauled by 2,000-hp. single-unit Electro-Motive Diesel-electric locomotives, of which the railroad has in service a fleet of 24 units.







Floor plans of the cars of the "Georgian" and the "Humming Bird" trains. From top to bottom are the coach, the coach for colored passengers, the tavern-lounge, and the dining car

Armstrong Chinn Elected Head of Terminal of St. Louis

ARMSTRONG CHINN, chief executive officer of the Alton since October 4, 1945, was elected president of the Terminal Railroad Association of St. Louis, Mo., on December 9, succeeding Philip J. Watson, whose death on November 1 was reported in the *Railway* Age of November 9, page 755.

In accepting the presidency of the T. R. R. A., Mr. Chinn assumes the direction of one of the major switching lines of the nation and one that is actively engaged in both the north-south and east-west interchange of passengers and freight. Under Mr. Watson's direction its properties have been thoroughly modernized both in road and equipment.

One of the major problems facing Mr. Chinn arises from the demands of the city of St. Louis and of the National Park Service of the United States Department of the Interior for the removal of the so-called "Merchants elevated line," which extends from a point just north of the Eads bridge down the Mississippi river front for a distance of slightly over a mile. The elevated structure, as it exists today, is considered an eyesore by these two government bodies and a hindrance to their plans to develop this area as a memorial park to Thomas Jefferson. The line is used as the main approach to the Union station by passenger trains of the Alton, Chicago & Eastern Illinois, New York, Chicago & St. Louis, New York Central, Chicago, Burlington & Quincy and the Missouri-Kansas-Texas. In the vicinity of the Union station it connects with freight-handling facilities of the Missouri Pacific (Western lines), St. Louis-San Francisco and Wabash, while north of the Eads bridge it serves one of the city's major industrial areas, as well as connecting with the lines of several other railways. Elimination of another surface line paralleling the elevated line is also sought by the two government bodies.

The development of a plan that will satisfy the demands of the national and civic bodies, maintain the present operating advantages of the existing line, and yet remain within the bounds of reasonable costs, will not be an easy task and will be one of the more important problems which must be met.

As the only major east-west and north-south gateway city served by a single union passenger station, it seems likely that the growing pressure for additional inter-regional passenger cars and trains will inevitably lead to an even larger number of these cars and trains routing via St. Louis. (The New York-Texas section of the "Sunshine Special," the first such inter-regional train to be inaugurated in recent years, is being routed via St. Louis). The development of methods to provide the same prompt, efficient handling of these cars and trains now given existing trains will be another of the important problems to be solved by the road.

Mr. Chinn brings to the Terminal a thorough knowledge of railroading gained through long experience in engineering and operating positions on several railways. He was born in Dallas, Tex., on September 26, 1894, and received his higher education at the Virginia Polytechnic Institute, from which he received the degrees of B.S. in Civil Engineering in 1915, and Civil Engineer the following year. He first entered railway service in the summer of 1912 as a rodman on the Wheeling & Lake Erie, serving in that capacity during the following summer, and as an instrumentman for Norfolk county, Va., during his 1914 vacation period.

Railroad Background

Upon receipt of his B.S. degree, Mr. Chinn became an assistant instructor in civil engineering at V. P. I., while working for his degree as civil engineer. In June, 1916, he re-entered railway service as an instrumentman on the Burlington at St. Louis, Mo. Except for the period January, 1918, until June, 1919, when he was a field artillery officer in the United States Army, he served in that capacity at various locations until June, 1922, when he was promoted to assistant engineer at Aurora, Ill. In August, 1923, he was advanced to division engineer and roadmaster of the Quincy, Omaha & Kansas City, (part of the Burlington system), at Kansas City, Mo. Two years later he became assistant roadmaster of the Burlington at Kansas City and the following year he was promoted to assistant district engineer maintenance of way at Alliance, Neb.

From April, 1927, until September of that year, Mr. Chinn was district engineer maintenance of way at Alliance. On the latter date he was transferred to Lincoln, Neb., and at the same time was made also supervisor of work equipment.

Mr. Chinn entered the employ of the Alton in December, 1929, as its chief engineer. He remained in that capacity until March, 1943, when he was promoted to general manager. On October 4, 1945, Mr. Chinn was named chief executive officer of the road.

Armstrong Chinn

Mr. Chinn is a member of the American Railway Engineering Association, of which he is senior vice-president; the Roadmasters' and Maintenance of Way Association of America, of which he served as president during 1936; the American Railway Bridge and Building Association (president during 1939); the Maintenance of Way Club of Chicago (president during 1941-42); the Western Society of Engineers (chairman of the Transportation section in 1938-39); and the American Legion.

17.6 Per Cent Rate Increase Authorized

(*Continued from page 994*)

considerations have been carefully considered."

"There is," the report added, "far less testimony tending to deny the necessity for according the petitioners additional revenue than at the former hearing, although a substantial number of protestants regard the interim increases as sufficient. There was also substantial accord in the endeavor to deal with the future on a normal basis, equating out abnormalities in traffic, revenue, and expenses such as have existed in varying degrees in recent months, not expected to persist or recur."

In discussing the approved proposal to continue present passenger fares without an expiration date, the report cited railroad estimates to the effect that a tentative separation of revenues and expenses indicated a deficit in net railway operating income from passenger service of $83,000,000 in 1946, and $445,000,000 in 1947.

The Burlington's Diesel service shop at Clyde, Ill.

Burlington Builds Three Diesel Shops

One, the modern facility at Clyde, Ill., meets needs for the maintenance and repair of road freight and switching units in the Chicago area

PART I

WITH the new facilities which the Burlington has completed recently at Clyde (Chicago), Ill., Denver, Colo., and West Burlington, Iowa, to supplement existing facilities at its Fourteenth Street passenger yard in Chicago, this road is in a position to service and make all classes of repairs to a fleet of 170 Diesel-electric road and switching locomotives. The shop at Denver is entirely new, that at Clyde embraces a new structure supplemented by a portion of an existing roundhouse and machine shop, while at West Burlington a portion of an existing steam locomotive erecting shop was taken over and remodeled for Diesel work.

Maintenance of the majority of the passenger road Diesels is handled at Fourteenth Street in Chicago and at the new shop at Denver, while all Diesel road freight locomotives are maintained at the new shops at Clyde and Denver Switching locomotives working in the territories adjacent to these shops are also maintained at these terminals.

The shop at Clyde is the principal maintenance point for eleven 5,400-hp. and ten 4,050-hp. Diesel freight locomotives and 20 Diesel switching locomotives of 600, 800 and 1,000-hp. rating. The freight Diesels are the Electro-Motive type and the switchers are Electro-Motive, Alco and Baldwin types, necessitating a wide range of facilities for making repairs, and requiring the storage and handling of a large number of small locomotive parts.

Diesel Facilities at Clyde

Plans for the new facilities at Clyde called for taking over a portion of the machine shop and three stalls, with their tracks and pits, in the existing roundhouse at that point, and making necessary alterations to adapt them to Diesel locomotive maintenance; the removal of a carpenter shop and its replacement with a new building in a new location, to permit the construction of a new Diesel shop building; the construction of an oil reclamation building; the erection of a new two-track sanding and fueling station; and the removal of 250 ft. of existing trackage and the construction of 3,650 ft. of new tracks to serve the new layout.

The new Diesel shop lies in a general east and west direction and adjoins the west side of the roundhouse machine shop. It is served by two through tracks, which enter at the west end and connect with two tracks in the roundhouse.

These tracks, together with a third stall track taken over in the roundhouse, make it possible to handle five 5,400-hp. freight locomotives within the shop at one time. The three tracks taken over in the roundhouse line up with three lead tracks on the opposite end of the 135-ft. turntable serving the house, so that it is not necessary to cut the four-unit locomotives apart to move them into the shop from the east. However, beeause there are more complete facilities for Diesel maintenance in the new shop area, the four-unit locomotives usually are brought into and taken out of the shop at the west end. For this same reason, the new sanding and fueling facilities are located on the lead-in tracks west of the shop.

The new shop building is 80 ft. wide by 325 ft. long and has a 30-ft. by 130-ft.

one-story wing on the north side, used as a locker and wash room for the shop personnel, and an integral 18-ft. by 62-ft. one-story filter building along the south side. The east end of the main shop building is entirely open where it joins the existing roundhouse machine shop, so that, in effect, the shop as a whole is 515 ft. long.

Fire-resistant construction was used throughout in the new shop, which employs steel columns supporting transverse steel roof trusses, a roof deck of lightweight concrete slabs protected by a tar-and-gravel roof covering, and brick end and side walls fitted with large areas of glass blocks and horizontally-hinged ventilating sashes. The large glass areas, together with a wide monitor throughout the full length of the roof, and a line of six-light window sashes at the ground level, afford ample daylight within the interior. Track openings at the west end of the shop, 14 ft. by 17 ft., are fitted with electrically-operated Kinnear rolling steel shutter-type doors.

Shop Interior

The design of the main shop includes two service tracks with inspection pits equipped with a mobile de-icing machine; two-level working areas serving the service tracks; truck and wheel storage tracks; a drop pit; rooms for the repair of electrical devices and air brakes, and for pipe and machine work; a small-parts storeroom and storage space for bulky units; a 30-ton overhead crane; an office; supply lines for lubricating oil, hot water, steam, and compressed air; and lighting, power and heating facilities.

The shop floor is of concrete throughout and is depressed three feet below the level of the service tracks, except for a 13-ft. strip at the west end, a walk along the north side wall, and an area 66 ft. long at the east end.

A continuous working platform 16 ft. wide between tracks, and another 32 ft. 5 in. wide along the south side wall, have their surfaces at locomotive floor height.

Both platforms are of pan-type, reinforced concrete design, with embedded Hexteel grids to afford a wear-resistant surface, and are supported on reinforced concrete columns on approximately 14-ft. 5-in. centers. The island platform between tracks is about 240 ft. long, extending from a point about 14 ft. from the west-end wall and ending about five feet from the edge of the drop pit at the east end of the new building; while the south platform is about 254 ft. long, ending at the same point, but beginning at the west-end wall. The track sides of the platforms have metal edges and are of cantilever design, thus permitting the supporting columns to be set back a distance from the tracks, providing a wide, clear area between them and the track pits for work on the lower parts of locomotives. Both platforms have steps to the lower level at their centers, as well as at each end, and the island platform between tracks, in addition, has three 6-ft. by 8-ft. openings, with removable concrete slab covers, for passing long or bulky parts between the two levels. Hand railings are located at only the drop-pit ends of the platforms and at the stair wells. Other features in connection with the platforms include portable gangplanks for spanning the track gap between the two platforms and 12 small metal-covered openings in the island platform, each housing receptacles for supplying power and lighting to the two levels.

Inspection Pits

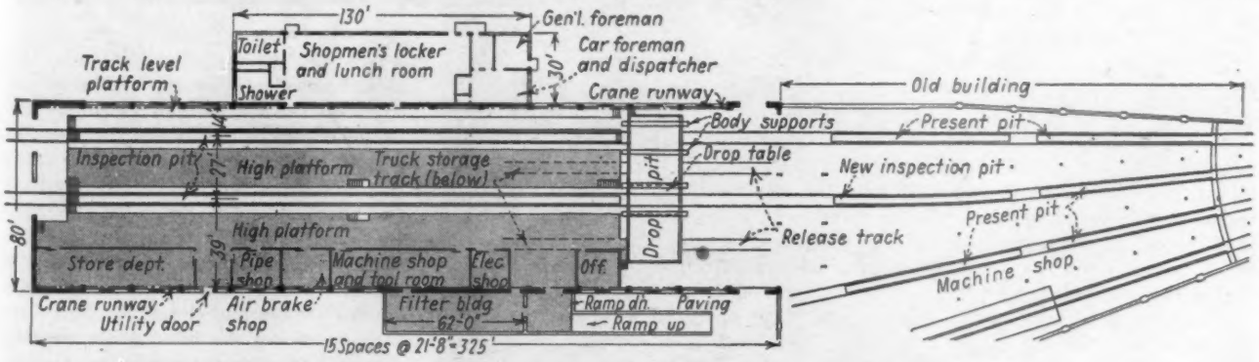
The inspection pits serving both tracks are approximately 293 ft. long and are continuous, except for a 23-ft. opening necessitated by the drop pit. Three openings through the pit walls permit workmen to enter or leave the pits, or to pass from one side to the other without the necessity of walking to steps at the ends.

The pits are three feet deep east of the drop pit, but are four feet deep west of that point to afford headroom for the movement through them of a Wilson de-icing machine. This machine, which can be moved readily from one pit to the other by means of an overhead crane, consists of a large radiator unit heated by steam from high-pressure steam supply lines, a motor-driven fan, and a grill of adjustable vanes for directing a stream of heated air upward toward the lower parts of locomotives. The machine is designed to deliver air at a temperature of about 130 deg. F., and at a velocity of approximately 1,500 cu. ft. per min.

In operation, the de-icer is moved manually through the pits under the ice-covered underframes of locomotives to loosen the hold of the ice and thus permit inspection and repair work to begin promptly. To permit this movement, the machine has two 25-ft. hose lines for its steam supply and return, and an electrical extension cord, which can be attached to valves and receptacles, respectively, located at intervals of approximately 45 ft. along the pit walls, as the unit is moved forward. Rails of light section are embedded in the concrete floors of the pits at 2-ft. gage to facilitate movement of the machine.

The drop-table, a Whiting 80-ton table, not only serves the two through service tracks, but also two 54-ft. truck and wheel storage tracks and two 40-ft. release tracks. The truck and wheel storage tracks are located at the depressed floor level beneath the high platforms in the new shop area, while the release tracks extend in the opposite direction, into the old roundhouse machine shop area, at the same level as the service tracks. Whiting locomotive body supports on each side of both service tracks at the drop pit carry the units while the trucks are being removed and replaced. Supplementing the drop pit table for unwheeling work, a Whiting double-beam 30-ton overhead crane, as mentioned previously, serves the entire length of the new building.

Since all filters on the road's freight Diesels are cleaned and oil-freshened



General plan of the Clyde shop. Shaded areas are at a higher elevation.

Above — Snowco sanding station with eight outlets, installed on the lead-in tracks just west of the Diesel servicing shop. Right— Looking east through the Clyde shop, showing overhead heating and lighting facilities, and pit equipped with rails to facilitate the use of a de-icing machine

at the Clyde shop, except in the case of Diesels sent to West Burlington for heavy general repair, the facilities provided in the filter building are quite comprehensive, including a 250-lb. P. & H. monorail electric hoist mounted over four vats for removing oils and grease, rinsing, air blowing and drying, and dipping for the application of a clean oil film. This hoist also serves an oil drain board and a bake oven. For the cleaning of engine cylinder heads, pistons, and small parts, the filter building is also equipped with two large lye vats, with a water-rinsing grill between them, which are served by a ½-ton P. & H. electric hoist. A full basement underlies the building and contains a small room for the maintenance of batteries and a room for the storage of various locomotive parts.

The previously mentioned rooms in the main shop for machine work and storeroom purposes, and for the repair of electrical devices, piping and air brakes, are located on the high-level platform along the south side of the shop. These rooms are constructed with yellow glazed building tile, and have a ceiling height of only 15 ft., which precludes their interference with the operation of the overhead crane in the main shop. The small-parts storeroom is 17 ft. by 71 ft. and contains a series of transverse storage racks, with space at one end for a desk and the files of the local storekeeper. Adjacent easterly from this room is a platform area 16 ft. wide, with a door to the outside of the building for the truck delivery of parts, and beyond this, to the east, are a pipe shop and an air-brake shop, each 17 ft. by 21 ft. and fitted with the customary work benches, tools and equipment particular to the classes of repair work to be handled in these areas.

East of the air-brake room is a 17-ft. by 61-ft. machine shop where the heads, liners, pistons, valves, governors and other small engine parts are reconditioned. This room is well-equipped with power tools, and other repair facilities, including an Independent pneumatic cylinder-lining glaze remover, a valve grinder, a 60-ton arbor press, a Woodward governor test rack, a Sibley 22-in. upright drill press, a 16-in. Pacemaker lathe, a bench drill press, and black-light crack-testing apparatus, as well as wood-top work benches. East of this room is a 17-ft. by 17-ft. electrical shop, followed by a platform area 31 ft. wide, and an office, 17 ft. by 19 ft., for the Diesel shop foreman. On the depressed floor level underlying all of these rooms is a large storage area for oil barrels and miscellaneous heavy or bulky locomotive parts.

The locker and wash room wing constructed along the north side of the shop proper is 30 ft. wide by 130 ft. long, and, as mentioned previously, is devoted entirely to the comfort of the shop personnel, except for offices at the east end for the general shop foreman, car foreman and dispatcher, and a registry hall. The remainder of the wing includes lunch tables with benches, steel lockers, three 54-in. Bradley wash fountains, a shower room, toilet facilities, and a janitor's room and closet.

Augmenting the natural illumination received through the expansive window areas, the new shop has a comprehensive

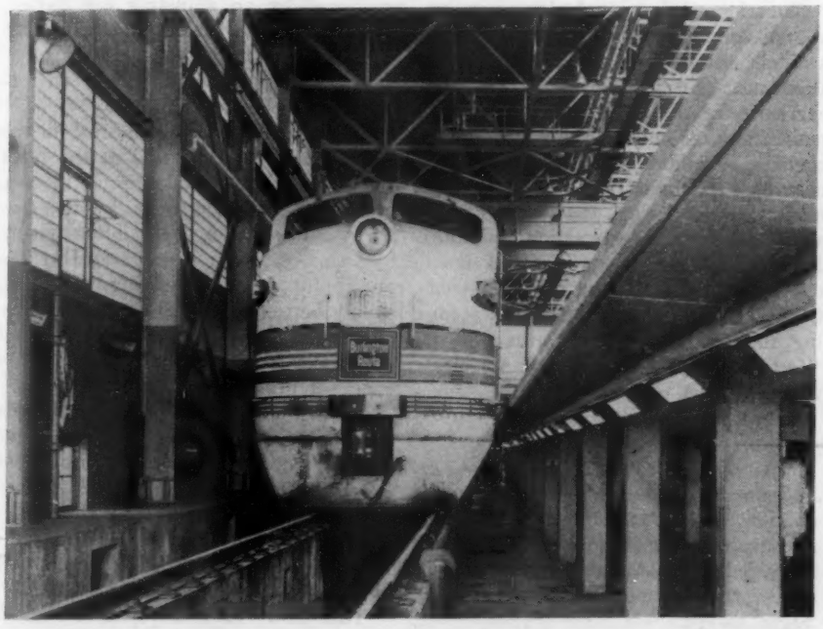
system of electric lighting. This includes Benjamin wall-recessed track and drop-pit lights, banks of fluorescent lamps along the north wall and under the high platforms, a line of alternate 400-watt mercury and 500-watt incandescent, bracket-type fixtures above locomotive height along the north wall, and two longitudinal lines of 400-watt mercury and 1,000-watt incandescent pendant-type fixtures suspended from the roof, in which the two types of fixtures are staggered. The mixing of the mercury and incandescent lights not only produces a light of high intensity, but facilitates the servicing of the heaters as well as the operation of the valves of the steam supply and return lines.

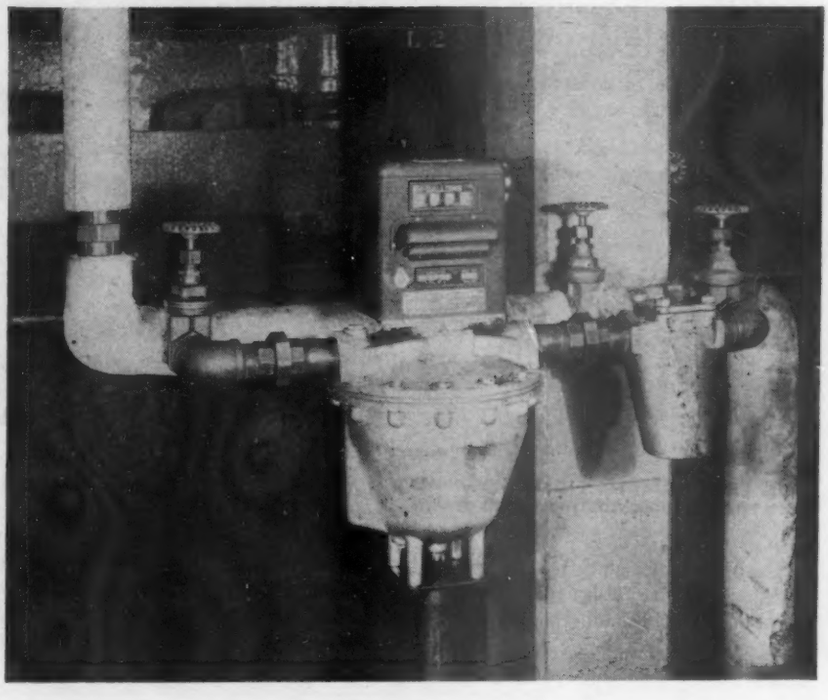
Ventilation and Color

Proper ventilation within the main shop is secured by means of continuous glass ventilating panels on each side of the roof monitor, supplemented by the ventilating sashes in the side walls. The monitor-sashes are opened and closed in banks of 34 panels and are electrically-operated by remote control from the south high platform. The filter building has two motor-driven roof ventilators, while the locker and wash room wing has several gravity-type roof ventilators.

The shop interior is painted to the color-dynamics plan of the Pittsburgh Plate Glass Company, which focuses the eye to critical objects and areas, while at the same time making the general surroundings pleasant. The colors used include red for the depressed floor and step surfaces; gray for the columns of the platforms and for the lower part of the side walls; light green for the upper side walls, roof and trusses; and yellow for the undersides and edges of the platforms. The overhead crane beams and the control cab are also painted yellow, but the block and hook are painted red. Other critical objects, such as fire-hose supports and the electric control boxes, are painted bright orange.

As pointed out previously, three stall tracks in the existing roundhouse and a portion of the house machine shop were taken away from steam service and incorporated in the new Diesel facilities. Each of the tracks taken over was already provided with two 78-ft. inspection pits. The west pit of the most northerly of these tracks was equipped





Left — View from upper level. Note lights located under platform and in the pit to facilitate underframe inspection. Below — Lubricating oil is metered both in the oil-reclamation building and in the shop. Here, a Bowser Xacto meter, with ticket counter, registers the amount of oil placed on Diesel locomotives in the shop

was done to produce a light of better color and to achieve a lower operating cost than would be possible if lights of the incandescent type alone had been used.

Steam for heating the new shop is furnished by the terminal's central power plant, where an additional boiler was installed to increase the steam output by 25 per cent. Heating of the locker and wash room wing, the filter-cleaning building, and the various small rooms in the main shop, is by means of radiators and unit heaters. The main shop is heated by fourteen Trane, motor-driven, projection-type unit heaters, which are suspended from the roof trusses and propel strong currents of heated air down to the floor area. These units are equipped with what is termed the "high-low," or "ceiling-floor"-type heat control, with thermostats located both near the floor and in the upper levels at several points to maintain a uniform temperature of about 65 deg. throughout the building. A steel catwalk suspended from the roof trusses

with concrete jacking pads and this track was connected to the more northerly of the tracks in the new shop. At the same time, the west pit on the adjacent house track was removed and rebuilt to line up with the other new through track in the new shop. Other alteration work in the house section included the removal of 80 ft. of the west exterior wall and sash, where the new shop adjoins the old structure, the installation of steel columns and beams to support the load formerly carried by the removed wall, the repaving of a portion of the concrete floor, and the construction of concrete pipe trenches to facilitate the installation and maintenance of lubricating oil supply and drain systems.

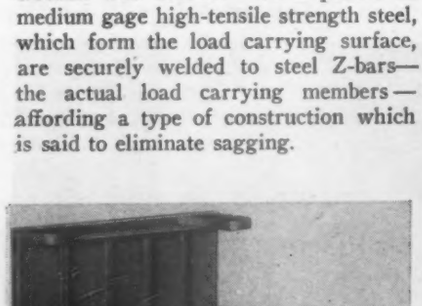
The new oil reclamation building, which lies in a general north and south direction about 100 ft. south of the east end of the Diesel shop, is a one-story structure, 27 ft. wide by 50 ft. long, of modern fire-proof construction. It is underlaid with a basement, 11 ft. wider on one side to prevent crowding of the facilities located there, and the roof of this extension serves as an oil barrel loading platform. The building has a concrete foundation, brick side walls, a monolithic concrete floor, and a monolithic concrete roof slab overlaid with built-up composition roofing. It is heated by steam radiators and is lighted throughout with explosion-proof electrical features.

The basement houses three large steel oil-storage tanks, each of 11,500-gal. capacity, which are used, respectively, for storing used, refined, and new oils. It also houses a smaller used-oil holding tank of 750-gal. capacity; a pressure tank; and four Blackmer oil pumps and a cold-water booster pump driven by G.E. explosion-proof electric motors; as well as an air-release tank, three Bowser oil meters, and other small electrical and pipe fittings.

The main floor contains Refinoil oil-reclamation equipment and a Bowser six-tank oil-distributing system; a toilet and wash room; and a work table for the attendant. The oil supply and drain lines carried under the high platforms in the main shop are connected to the oil reclamation building by lines laid in a concrete pipe tunnel, and the lubricating oil is metered as it is used, both in the shop and in the reclamation building. Facilities for unloading new oil from tank cars are located on a nearby spur track. (Part II of this article, describing the new shops at Denver and at West Burlington, will appear in next week's issue.)

Steel Skid Platform

The Market Forge Company, Everett, Mass., has designed a new type all-steel skid platform for use with hand and electric lift trucks. Deck panels of medium gage high-tensile strength steel, which form the load carrying surface, are securely welded to steel Z-bars—the actual load carrying members—affording a type of construction which is said to eliminate sagging.



This lightweight steel platform saves floor space through its individual design

The legs of the platforms are of solid bar steel and are designed in a manner to permit stacking of the units when empty.

The skid platform is made of galvanized steel, or of stainless steel or aluminum for use where corrosive conditions are severe, and is available with integrally welded corner stake sockets and stakes to assist in holding the load while it is being moved.

All platform parts are manufactured by a method similar to that employed in steel office furniture construction and have smooth edges to avoid marking or scratching, and since the units as a whole are assembled without bolts or rivets, it is said that their maintenance is reduced to a minimum.

Single Point Slack Adjuster

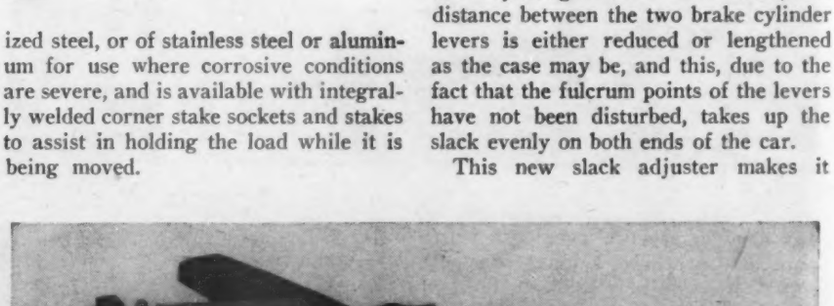
The Adjuster Corporation, Chicago, has recently developed and placed on the market a single-point slack adjuster designed to afford a simple and effective means of taking up slack in foundation brake rigging as a result of shoe wear or other cause without the necessity of making the usual adjustment at multiple-hole fulcrums attached to individual truck bolsters and the brake-cylinder pressure head or car body.

The device consists of a cast steel body with U-shape interior sliding portion positioned by an adjusting nut having a 1⅛-in. Acme thread and a locking plate to hold the nut positively against turning except when necessary adjustments are being made.

The adjuster is pin-connected to the floating lever and the rod at the right end is connected in the usual manner to the cylinder lever. With this slack adjuster in place, it is possible manually to maintain proper piston travel at this one point alone, adjusting the slack evenly between the two ends of the car and maintaining proper angularity of the brake levers throughout the entire range of brake-shoe wear.

The operation is simple. By turning the adjusting nut of the device, the distance between the two brake cylinder levers is either reduced or lengthened as the case may be, and this, due to the fact that the fulcrum points of the levers have not been disturbed, takes up the slack evenly on both ends of the car.

This new slack adjuster makes it unnecessary to have more than one hole in each fulcrum and brake rod and lever connection throughout the car; also it will not be necessary to remove a cotter and lever pin in order to take up slack as is now the case. The only requirement will be to release the locking feature and turn the adjusting nut.



Manually controlled brake-rigging slack adjuster

Why the I. C. C. Vetoes Volume Rates

Turned down, not as unlawful *per se*, but because they apply to few shippers, with no evidence of lower handling costs

By G. LLOYD WILSON

Professor of Transportation & Public Utilities, University of Pennsylvania

This article is one of a series by Dr. Wilson in which he is exploring the potentialities of various forms of freight rates not in general use because of doubt as to their legality, or their conflict with established I. C. C. policy. In our November 2 issue he described the contract rates which the law allows the railroads to proffer to government agencies, and drew a parallel between such charges and the "agreed rates" offered to private shippers by the railways of Britain and Canada. In his next article, scheduled for publication in an early issue, he will report on the attitude of Canadian shippers toward "agreed" charges.—EDITOR.

THE Interstate Commerce Commission in several cases has disapproved, and found to be unlawful, freight rates published by freight forwarding companies and railroads conditioned upon the quantity of freight shipped by a shipper, or received by a consignee, in a given period of time.

In *Forwarder Rates Conditioned Upon Aggregates of Tonnage — Western Freight Association*, Division 2 of the commission, ordered a freight forwarder to cancel rates from Pittsburgh, East Liverpool, and Zanesville, Ohio, to various points in Western Trunk Line and Southwestern territories, conditioned upon the annual tonnage of freight transported by the forwarder for shippers or consignees. The forwarder's tariff provided different rates on the same commodities, from the same points of origin, to the same destinations, dependent upon their total annual shipments via the forwarder's service.

For example, the following rates were published on chinaware, glassware, and similar commodities:

Quantity Shipped or Received by Shipper or Consignee Annually	Rate † Per 100 lb.
Less than 200,000 lb.	$2.12
200,000 to 400,000 lb.	1.95
Over 400,000 to 2,000,000 lb.	1.85
Over 2,000,000 to 4,500,000 lb.	1.75
Over 4,500,000 lb.	1.60

The charges were assessed initially upon the rate applicable to the quantity of freight shipped during the preceding fiscal year, subject to readjustment at the end of the fiscal year, ending July 31. If the shipper or consignee shipped or received less freight upon which it paid freight charges than in the preceding year, so that a higher rate applicable to the smaller annual quantity should have been applied, the charges were calculated upon this basis and the shipper or consignee was billed for the additional charges due. If larger quantities of goods were shipped or received, the charges were adjusted downward and the forwarder credited the shipper or consignee with the excess payments.

The forwarder, Carl E. Anderson, doing business as Western Freight Association, conceded that there was no difference in the service rendered shippers or consignees for which different rates were charged, except the difference in the annual quantity transported. Several shippers might forward shipments of the same amounts and the same commodity which might be loaded in the same car for movement from the same point of shipment to identical destination, and be charged different rates, the rates being determined upon the annual volume transported.

The commission found that the forwarder's annual report for 1943 showed that its "average out-of-pocket cost of doing business" was $1.54 per 100 lb. This did not take into account an allowance of 5 cents per 100 lb. paid to shippers or consignees who performed pick-up or delivery services in their own vehicles. This resulted in the forwarder transporting, in the fiscal year ending July 31, 1944, about 36 per cent of his total traffic at a net rate only one cent per 100 lb. higher than its "average out-of-pocket costs of operation."[1]

The report of the commission ordered the tariff item containing the rates cancelled as of March 8, 1946, upon short notice, and found the rates and the rules and regulations of the tariff "unjust and unreasonable, unduly prejudicial, unjustly discriminatory, and unduly and unreasonably preferential, as between persons using the volume rates and those not using them, in violation of the Interstate Commerce Act, Part IV.[2] The forwarder's tariff was found also to be unlawful in that the item containing the rates did not conform to the provisions of the act and to the rules of the commission's tariff circulars applicable.[3]

The commission, in holding the volume rates unlawful, stated that they constituted a device "whereby a comparatively few large patrons, who could use the volume rates, were afforded transportation at rates lower than rates charged other persons under substantially similar circumstances and conditions. . . . It is, we think, appropriate for us to call attention to the fact that the face of the tariff itself shows that it leads the respondent to violations of the Elkins Act which . . . is applicable to freight forwarders such as the respondent. . . ."[4]

The decision of the commission in this case follows the precedent established in several earlier cases.

The Lifschultz Case

In 1943 the commission, in a report written by Commissioner Aitchison, ordered cancelled schedules of Lifschultz Fast Freight, a freight forwarder, publishing rates on books, drugs, chemicals, toilet preparations, and cotton goods, from New York to Chicago on lower bases than the ordinary rates conditioned upon the consignees receiving 150,000 lb. or more of freight in l. c. l. lots from New York to Chicago in three full calendar months preceding the month in which any shipment was made under the rates.[5] The report stated: "It is clear that there would be no way whereby respondent could determine whether the consignee had actually received the required volume of freight in the specified period, except as to consignees who may have received the stipulated amount from the respondent itself. . . . We have long recognized as a sound principle in making transportation rates that a reasonable, fair and just difference in rates charged upon a weight basis may be made in proportion to the quantity transported of an article or commodity,

† Carl E. Anderson d/b/a/ Western Freight Assn., Local and Joint Freight Tariff 1-A, I.C.C., —F.F. No. 3, Item No. 140, original page 28, issued Sept. 25, 1942, effective October 28, 1942.

[1] I.C.C. Docket No. 28896, December 28, 1945.

[2] Interstate Commerce Act, Part IV, Sections 404 (a) and (b), and 414.

[3] Tariff I.C.C. F.F. 3; Interstate Commerce Act, Part IV, Section 405; and Tariff Circulars MF No. 2, Rule 3 (c), and No. 20, Rule 4 (I).

[4] I.C.C. Docket No. 28896.

[5] Lifschultz Fast Freight Tariff No. I.C.C. FFI, Note A, effective October 5, 1942.

when it is tendered and is moved as a carload, and when it is tendered and moved in less-than-carload lots. We are not convinced, however, that that principle may be extended to justify volume rates—that is to say, rates established . . . on the theory that a consignee who receives a specified quantity of freight during a certain period may be accorded lower rates on other shipments of the same or different commodities in any quantity received in a subsequent period."[6]

The proposed schedules were found not just and reasonable and to be unjustly discriminatory as between particular persons, those receiving the reduced volume-conditioned rates and those not receiving them, and hence unlawful under the Interstate Commerce Act.[7]

Mutual Distributing Case

In another freight forwarder case, the commission by Division 2 found not to be just and reasonable and to be unjustly discriminatory the so-called flat rates published by Mutual Distributing, Inc., from Chicago and the Twin Cities to points in Minnesota and North Dakota. The rates were conditioned upon the shipment by the shipper or receipt by a consignee via the forwarder's service of an average of 50,000 lb. or more of less-than-truckload freight with an average weight density of not less than 10 lb. per cu. ft.[8] The lower flat rates were applied alternatively with the higher class rates ordinarily applicable.

It was claimed for these flat rates that they eliminated solicitation expenses, lessened billing costs, and provided a regular flow of business, thus enabling the forwarder to make daily truckload shipments. To the shippers and consignees these rates offered the advantages of lower charges and daily service.

Since the lower flat rates were applied alternatively with the class rates which made it necessary that the freight be classified, the commission found that the record did not show that the billing expenses of the forwarder would be lessened materially by the use of the flat rates, and that the physical handling costs were not different from those of handling the traffic moving at the specific class rates. The rates and tariff provisions were ordered to be cancelled.[9]

In all of the recent tonnage conditioned cases, the commission cited an early case in which rates of this type were condemned, the *Providence Coal Case,* decided in 1887.

One of the first cases to come before the Interstate Commerce Commission was a rebate case, which frequently has been referred to as a precedent against tonnage freight rates—the case of the *Providence Coal Company vs. the Providence & Worcester Railroad Company.*[10] In this case, the railroad had established rates providing for the repayment by the carrier of a 10 per cent rebate to any person who received consignments of coal amounting to 30,000 tons or more at any station on the rail carrier's line in any one year. A consignee could collect the rebate if the consignments were received in single car lots, provided, of course, the requisite annual minimum quantity was received. The complaint and the testimony in the case showed that this rebate, which amounted to as much as the wholesale dealers' usual margin of profit, could be paid only to one dealer, who alone of all the dealers in the district could comply with the minimum annual receipts provision of the tariff. The commission found the rate to be unduly discriminatory and illegal under the Interstate Commerce Act.

The then Chairman Thomas M. Cooley of the commission, who wrote the opinion of the commission in this case, took pains to indicate that the commission was not ruling upon carload as against trainload-lot rates. "A distinction in rates between carloads and smaller quantities is readily understood and appreciated; but no such distinction is made in this offer, and a customer of the road who shall receive all of his coal by carload, or even trainload, would be excluded if he fell short in quantity."

Chairman Cooley's dictum in the *Providence Coal Case* condemned rebates as fostering monopoly and stated: "If, therefore, a discount were to be offered in order to insure quick dispatch, a discrimination which should so limit the offer that a part of those who could and might desire to accept it would be excluded from its benefits, would for that very reason be unjust and indefensible. . . . A discrimination, such as the offer and its acceptance by one or more dealers would create, must have necessary tendency to destroy the business of small dealers. . . . A railroad has no right by any discrimination not grounded in reason, to put any single dealer, whether a large dealer or a small dealer, to any such destructive disadvantage."[11]

In another dictum in a case concerning the use of a private passenger car equipped with samples, Chairman Knapp observed that discriminating results were liable to attend the substitution of private for public equipment even when the rates for such services were open rates strictly observed and fair and reasonable for the services rendered. Continuing, he stated: "Nor is it sufficient in every case that a relation of rates, just from the carrier's standpoint, is maintained as between shipments of the same article by different methods or in different quantities. For example, a carload rate lower than the less-than-carload rate, where the difference is not too great, would ordinarily be lawful; but a still lower rate for shipments of a hundred or a thousand carloads, though duly published and impartially applied, would be wholly indefensible. If a low rate is granted on conditions with which only a few can comply, that rate is presumably unfair and may be extremely prejudicial to all other shippers of like traffic, because they are practically unable to meet the terms upon which it is offered.[12]

It is patent that Commissioner Knapp was referring to rates based upon the shipment of the specified minimum number of cars during a period of time which, because of their nature, only a few shippers or consignees could use.

An analysis of these cases shows that the commission has consistently disapproved rates conditioned upon the quantity of freight shipped or received in a given period of time as unlawfully discriminatory, preferential and prejudicial. It should be observed that, in the early cases, the cases turned solely on the point that only one or a few favored shippers could use the rates. In the later cases, the use of the rates was broader and the commission considered the questions of possible savings in billing and handling costs before condemning the rates out of hand, and disapproved them with the comment in the *Mutual Distributing Case* that there was no showing made that there were material savings in the billing costs and differences in handling costs.[13]

Anyone who thinks limiting union jurisdiction is a drastic proposal should consider the alternative. That alternative is to bring industry-wide unions under some form of government control. We have seen enough to know that leads to compulsion—such as drafting strikers into the armed services. Monopoly will destroy the competitive system. When the regulating effects of competition are lost, some other regulating agency must replace them. That agency is a government which, despite its own wishes, must become totalitarian if it is to perform the job.
—*The Wall Street Journal*

[6] I. and S. Docket No. 5152, *Books, Drugs, and Cotton Goods from New York to Chicago,* (256 I.C.C. 85, 87) 1943.
[7] (256 I.C.C. 85, 88), 1943.
[8] Mutual Distributing, Inc., Tariff I.C.C. FF No. 1, Item No. 255.
[9] I. and S. Docket No. 5215, Aggregate Tonnage to Minnesota and North Dakota, and Docket No.28896, *Forwarder Rates Conditioned Upon Aggregates of Tonnage,* (258 I.C.C. 635), 1944.
[10] (I I.C.C. 107), 1887.
[11] (I I.C.C. 107, 117, 118), 1887.
[12] *Carr v. Northern Pacific Railroad Co.,* (9 I.C.C. 1, 14), 1901.
[13] (258 I.C.C. 635, 637), 1944.

Nine Months' Purchases Near Peak

Railway buying of materials and supplies totaled $1,164,926,000 —$2,160,000 above 1945—All categories registered gains except fuel and rail which continued to lag—Crossties up 22 per cent

THE high-volume buying which has characterized the purchase of fuel, materials and supplies by Class I railroads continued throughout September, when these purchases, exclusive of equipment, totaled $151,426,000, according to estimates prepared by *Railway Age* and based upon special reports received from 75 individual carriers. September purchases were almost 4 per cent greater than the $146,059,000 spent for the same purpose during August; exceeded the July total by 11 per cent; surpassed the $121,976,000 expended in June by 24 per cent; and topped the $112,172,000 spent for materials and supplies during February by 35 per cent.

September Record

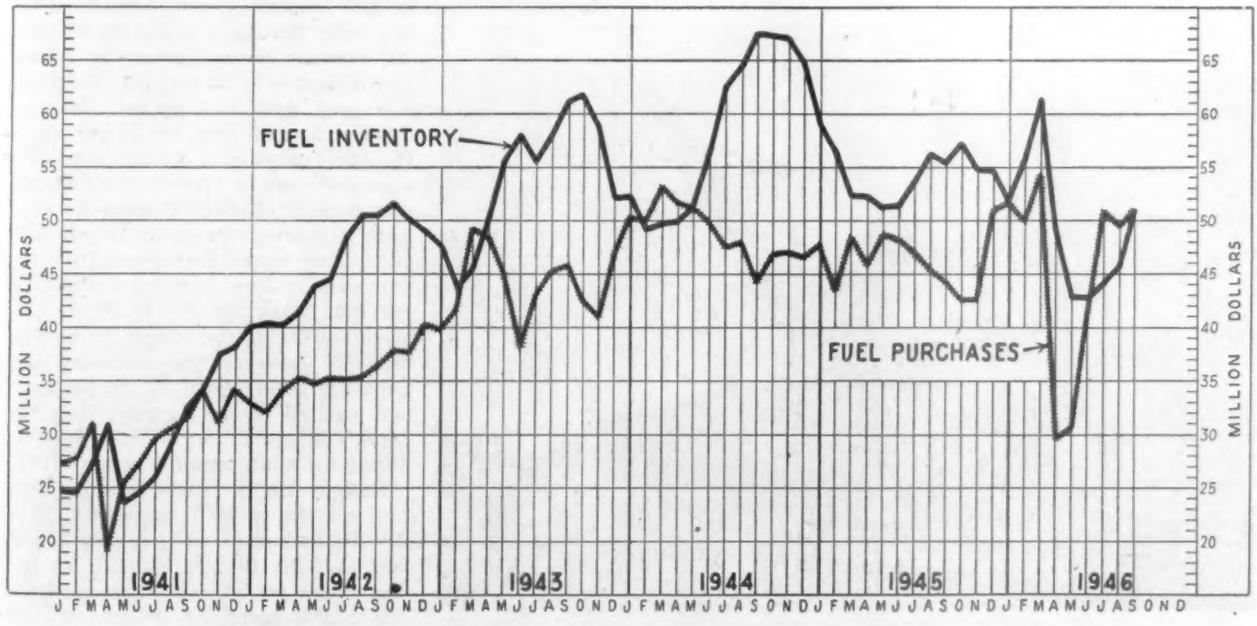
September purchases established a new monthly high mark as compared with previous years. They were 16 per cent more than the $130,138,000 expended for similar materials, supplies and fuel during the same month last year; 14 per cent higher than the $133,273,000 spent in September 1944; exceeded the September, 1943, total (which aggregated $128,911,000) by 17 per cent, out-paced 1942 by 53 per cent and were 41 per cent greater than the $107,065,000 spent during the comparable month of 1941.

The cumulative total of railway expenditures for materials, supplies and fuel for the first nine months of 1946 amounted to $1,164,926,000, and approximated the $1,162,766,000 spent for the same purpose during the comparable period of 1945. On the other hand, total purchases for the first three-quarters of 1946 slipped 4 per cent below 1944's $1,217,261,000, but surpassed the $1,019,304,000 spent for this material during the corresponding period of 1943 by 14 per cent, were approximately 21 per cent higher than the 1942 total for the same nine months and were 39 per cent greater than the $838,509,000 expended for similar materials, supplies and fuel during the corresponding months of 1941.

Purchases in September of all manufactured materials, including rails and crossties, but excluding fuel, amounted to $99,191,000. They exceeded the August total by 3 per cent and the July total by 15 per cent. They topped the $80,752,000 spent during June by 23 per cent, May by 17 per cent and April ($87,351,000) by almost 14 per cent. September purchases were also 23 per cent, 59 per cent and 27 per cent greater, respectively, than similar purchases during January, February and March, 1946. Purchases of these item during the first nine months of 1946, amounted to $755,158,000, a gain of 1.5 per cent over the $743,823,000 expenditure during the first nine months of 1945, but sagged 2 per cent below the $771,887,000 spent for the same purpose during the corresponding period of 1944. However, purchases during the first three-quarters of 1946 surpassed the 1943 total, which amounted to $622,403,000 by 21 per cent, were 16 per cent more than the 1942 nine months' total and were 28 per cent higher than the $588,358,000 expenditure during the corresponding period of 1941.

New Peak Established

High-volume buying of miscellaneous materials and supplies (excluding crossties, rail and fuel) required for the general maintenance of equipment and fixed property continued and estab-


FUEL INVENTORY
FUEL PURCHASES
MILLION DOLLARS
65
60
55
50
45
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1941
1942
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Although September fuel purchases increased 5 per cent over August, the cumulative total for the first nine months was $9,175,000 less than the 1945 expenditure

lished a new monthly high in this category. September expenditures in this category amounted to $84,148,000, compared with $82,173,000 in August and $72,435,000 in July. The September high also exceeded the $70,139,000 spent for the same purpose during June by 20 per cent; out-paced March by about 26 per cent; topped the year's low registered during February by 51 per cent; and was 20 per cent greater than the $69,808,000 spent for miscellaneous materials and supplies during January.

Class I railway purchases of miscellaneous materials and supplies during September, 1946, were 18 per cent higher than the $71,041,000 spent for this purpose during the corresponding month of 1945; exceeded the September, 1944, total by 11 per cent; surpassed the $68,564,000 expended for similar material during the ninth month of 1943 by 23 per cent; topped 1942 by 56 per cent and were 28 per cent more than the $65,618,000 spent for similar materials and supplies during the comparable month of 1941.

During the first nine months of this year the railways spent $647,064,000 for miscellaneous materials and supplies, compared with $633,185,000 during the same period last year; however, the 1946 total slipped 0.4 per cent below the $649,470,000 expenditure for similar materials and supplies during the corresponding period of 1944, but exceeded the 1943 expenditure (which aggregated $520,834,000) by 24 per cent; topped 1942 by 16 per cent; and was 27 per cent greater than the $508,083,000 spent for the same purpose during the comparable nine months of 1941.

September fuel purchases aggregated $52,235,000, and gained 5 per cent over the August total, which amounted to $49,635,000. September fuel deliveries also topped the January expenditure by 1 per cent; were 5 per cent more than the $49,702,000 spent for similar supplies during February; but slumped 4 per cent below the $54,270,000 expended for this material during March. However, September fuel purchases were 77 per cent, 71 per cent, 27 per cent and 2 per cent greater, respectively, than April, May, June and July purchases. September fuel deliveries also exceeded deliveries during the same month last year by 18 per cent; were 19 per cent higher than the $43,977,000 spent for similar supplies during the corresponding month of 1944; topped the September, 1943, total by 14 per cent; surpassed the $36,318,000 spent for fuel during the comparable month of 1942 by 44 per cent; and were 65 per cent more than the September, 1941, expenditure, which amounted to $31,597,000.

Fuel purchases during the first nine months aggregated $409,768,000, compared with $418,943,000 for the same period of 1945. They were 8 per cent less than the $445,374,000 spent for similar supplies during the comparable nine months of 1944, but climbed 3 per cent above 1943 purchases, which totaled $396,901,000; exceeded the first nine months of 1942 purchases by 32 per cent and were fully 64 per cent greater than the $250,151,000 expended for fuel during the corresponding months of 1941.

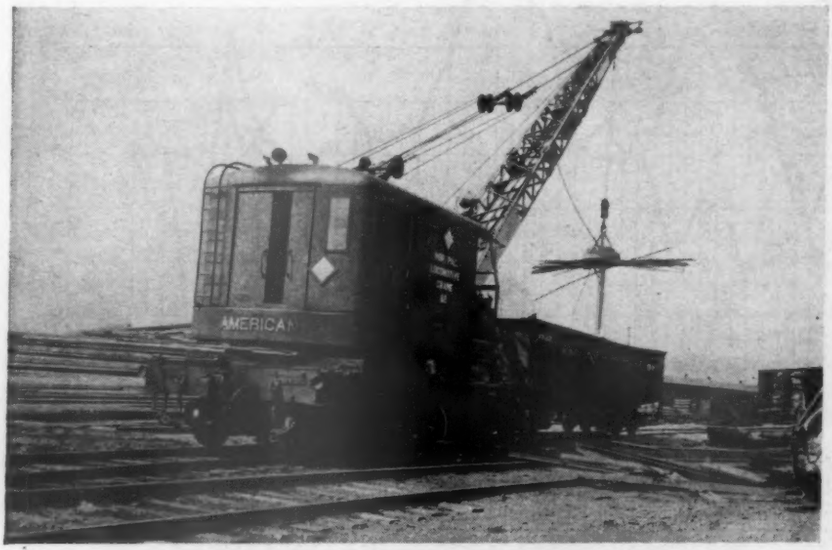
Expenditures for rail during September exceeded any other month so far this year and totaled $6,999,000. It is significant, too, that the September, 1946, expenditures in this category exceeded those of any other month since September, 1945. September purchases were 45 per cent greater than the $4,830,000 spent for similar material during January and topped the February low (which aggregated only $799,000) by 776 per cent. They were 127 per cent more than the $3,086,000 spent for rail during March and were 19 per cent, 48 per cent, 92 per cent, 27 per cent and 12 per cent greater, respectively, than similar purchases during April, May, June, July and August. On the other hand September rail purchases slipped 9 per cent below the $7,691,000 rail expenditure during the same month of 1945, but surpassed the $5,647,000 spent for this material during the comparable month of 1944 by 24 per cent; topped September, 1943, purchases by 25 per cent; were 93 per cent higher than the September, 1942, total (which amounted to $3,620,000); and exceeded the $5,503,000 spent for rail during the ninth month of 1941 by 27 per cent.

During the first nine months of this year the railways purchased rail valued at $41,715,000, or 26 per cent less than the $56,316,000 spent for this material during the same months of 1945. This total was also 27 per cent less than similar purchases during the comparable period of 1944 and approximated the $41,574,000 expended for rail during the first nine months of 1943, but dropped below the 1942 expenditure by almost 3 per cent and was 5 per cent less than rail purchases during the first three-quarters of 1941, which amounted to $43,871,000.

September Crosstie Purchases

Crosstie purchases during September continued at a fast clip and aggregated $8,044,000, the highest monthly purchase of this material since August, 1943. September purchases topped the $5,786,000 expended during January by 39 per cent, February by 32 per cent, March by 1 per cent, April by 5 per cent, May by 2 per cent and June by 15 per cent. Crosstie expenditures during September were also more by approximately 14 per cent than the $7,081,000 spent for this material during the same month last year. They topped September, 1944, tie purchases by 2 per cent, but slumped 11 per cent below the $9,032,000 tie expenditure during the comparable month of 1943; however, they exceeded the September, 1942, total by 57 per cent and were 85 per cent greater than the $4,347,000 spent for similar material during the ninth month of prewar 1941.

Railway tie purchases for the first nine months of 1946 aggregated $66,379,000, an increase of more than 22 per cent over the 1945 expenditure for the comparable period. They surpassed the $65,557,000 spent for similar material during the first three-quarters of 1944 by 1 per cent; exceeded the 1943 total



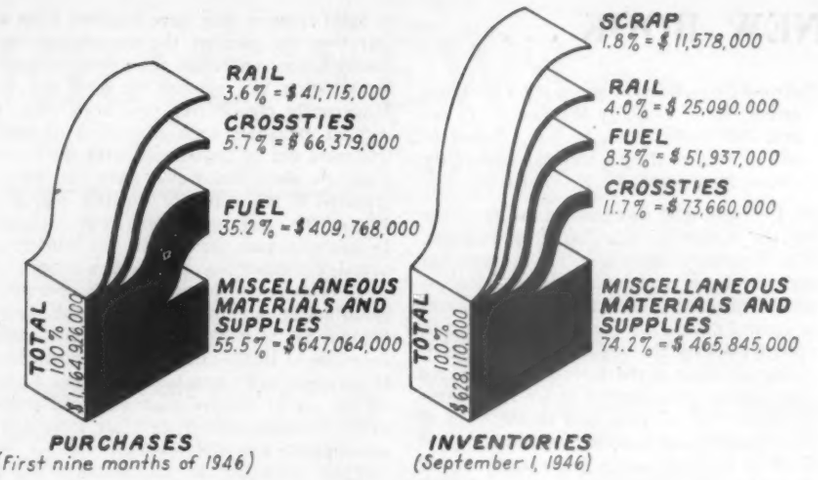
Modern mechanical equipment is helping the carriers speed the shipment of scrap to the steel mills

by almost 11 per cent; were 31 per cent higher than the $50,640,000 spent for this purpose during the same nine months of 1942; and topped, by 82 per cent, the $36,404,000 expended for similar material during the same period of 1941.

Supplies on Hand

Materials and supplies carried in stock by Class I railroads amounted to $628,110,000 on September 1, 1946, according to reports of the Interstate Commerce Commission. This total reflected a gain of $8,348,000, or 1 per cent over inventories on August 1 exceeded the January 1 total by 5 per cent ;and was 4 per cent more than the $604,799,000 inventory on February 1, 1946. September materials and supply stocks were also 4 per cent greater than the balance one year ago; surpassed the $598,737,000 balance on September 1, 1944; were 20 per cent more than inventories on the same day of 1943; topped the $395,918,000 stock on the comparable day of 1941 by 58 per cent; and were 84 per cent greater than the $340,960,000 material and supply balance on September 1, 1940.

Fuel stocks on September 1 totaled $51,937,000, a gain of 11 per cent over the supply one month earlier. However they sagged 6 per cent below the September 1, 1945, balance and were 23 per cent less than the $67,538,000 fuel supply on the corresponding day of 1944, but gained 3 per cent over fuel supplies on September 1, 1942; were 59 per cent higher than the $32,632,000 balance on the same day of 1941; and were 104 per cent greater than the $25,513,000 fuel supply on September 1, 1940.



According to *Railway Age* estimates, rail stocks on September 1, amounted to $25090,000, compared with $24,206,000 on August 1, and $22,486,000 on July 1. On the other hand, while they were 2 per cent less than the inventory one year earlier, they topped the $22,324,000 rail balance on the comparable day of 1944 by 12 per cent. And they exceeded the September 1, 1943, supply by 28 per cent, 1942 by 16 per cent, and 1941 by 2 per cent.

Crossties in stock on September 1 totaled $73,660,000—a drop of 6 per cent below the $78,698,000 balance on August 1,—but were 2 per cent higher than January, 1946 balances, topped September 1, 1945, tie inventories by 19 per cent; surpassed the $71,306,000 tie stock on the corresponding day of 1944 by 3 per cent; and were 35 per cent, 42 per cent, 32 per cent and 24 per cent greater, respectively, than crosstie inventories on the comparable days of 1940, 1941, 1942 and 1943.

Scrap inventories on September 1 amounted to $11,578,000—or an increase of 1 per cent over the August total—and were 3 per cent more than the January 1, balance, which aggregated $11,258,000. Compared with previous years, they dropped 18 per cent below the scrap supply on the corresponding day of 1945, but they exceeded the September 1, 1944, inventory by 12 per cent and were 35 per cent greater than the $8,607,000 on hand September 1, 1943.

Railway Purchases for First Nine Months 1941-1946—Class I Roads

	Miscellaneous Materials and Supplies (Excluding Crossties, Rail and Fuel)—In Thousands						Crossties—In Thousands					
	1946*	1945	1944	1943	1942	1941	1946*	1945	1944	1943	1942	1941
January	$ 69,808	$ 66,609	$ 64,987	$ 49,000	$ 68,988	$ 45,387	$ 5,786	$ 5,601	$ 6,895	$ 4,037	$ 4,871	$ 3,434
February	55,587	63,245	65,693	48,407	63,148	43,400	6,084	5,459	6,675	4,530	4,814	3,475
March	67,026	72,791	75,033	56,911	71,103	53,988	7,937	5,540	7,370	6,481	6,100	4,042
April	73,788	72,869	69,337	56,412	66,409	55,377	7,671	5,647	6,745	6,625	6,143	4,317
May	71,960	69,813	73,446	55,170	62,812	59,412	7,865	6,484	7,410	6,758	6,156	4,321
June	70,139	70,835	74,351	60,923	59,822	59,597	6,967	6,138	7,589	6,826	6,138	4,025
July	72,435	71,211	73,899	62,733	54,873	61,026	8,014	5,778	7,475	7,550	5,682	4,146
August	82,173	74,771	76,941	62,714	54,856	64,278	8,011	6,594	7,532	8,156	5,609	4,297
September	84,148	71,041	75,783	68,564	54,087	65,618	8,044	7,081	7,866	9,032	5,127	4,347
	$647,064	$633,185	$649,470	$520,834	$556,098	$508,083	$66,379	$54,322	$65,557	$59,995	$50,640	$36,404
	Rails—In Thousands						Total Materials and Supplies (Less Fuel)—In Thousands					
January	$ 4,830	$ 5,734	$ 6,423	$ 4,811	$ 3,071	$ 3,459	$ 80,424	$ 77,944	$ 78,305	$ 57,848	$ 76,930	$ 52,280
February	799	5,962	6,264	4,340	3,813	5,289	62,470	74,666	78,632	57,277	71,775	52,164
March	3,086	6,531	7,700	4,718	3,766	5,160	78,049	84,862	90,103	68,110	80,969	63,190
April	5,892	5,621	6,175	4,181	5,827	4,850	87,351	84,137	82,257	67,218	78,379	64,544
May	4,716	5,184	6,188	4,599	6,637	6,186	84,541	81,481	87,044	66,527	75,605	69,919
June	3,646	6,627	6,508	4,584	5,829	4,861	80,752	83,600	88,448	72,333	71,789	68,483
July	5,507	6,989	5,597	4,332	5,569	4,690	85,956	83,978	86,971	74,615	66,124	69,862
August	6,240	5,977	6,358	4,396	4,620	3,873	96,424	87,342	90,831	75,266	65,085	72,448
September	6,999	7,691	5,647	5,613	3,620	5,503	99,191	85,813	89,296	83,209	62,834	75,468
	$41,715	$56,316	$56,860	$41,574	$42,752	$43,871	$755,158	$743,823	$771,887	$622,403	$649,490	$588,358
	Fuel—In Thousands						Total Materials, Supplies & Fuel—In Thousands					
January	$ 51,683	$ 47,826	$ 50,341	$ 39,883	$ 32,851	$ 27,254	$ 132,107	$ 125,770	$ 128,646	$ 97,731	$109,781	$ 79,534
February	49,702	43,349	50,041	41,542	31,991	27,894	112,172	118,015	128,673	98,819	103,766	80,058
March	54,270	48,538	53,277	49,297	34,025	31,113	132,319	133,400	143,380	117,407	114,994	94,303
April	29,546	45,601	51,655	48,369	35,230	19,198	116,897	129,738	133,912	115,587	113,609	83,742
May	30,499	48,638	51,039	44,991	34,701	25,544	115,040	130,119	138,083	111,518	110,306	95,463
June	41,224	48,215	49,706	38,019	35,290	27,331	121,976	131,815	138,154	110,352	107,079	95,814
July	50,974	47,049	47,384	43,695	35,152	29,693	136,930	131,027	134,355	118,310	101,276	99,555
August	49,635	45,402	47,954	45,403	35,468	30,527	146,059	132,744	138,785	120,669	100,553	102,975
September	52,285	44,325	43,977	45,702	36,318	31,597	151,426	130,138	133,273	128,911	99,152	107,065
	$409,768	$418,943	$445,374	$396,901	$311,026	$250,151	$1,164,926	$1,162,766	$1,217,261	$1,019,304	$960,516	$838,509

*Subject to Revision.

NEW BOOK . . .

Railroad Consolidation under the Transportation Act of 1920, by William N. Leonard. 348 pages. 6 in. by 9 in. Bound in cloth. Published by Columbia University Press, New York, N. Y. Price $4.

Dr. Leonard, who was transportation officer for the Office of Civilian Requirements, War Production Board, during the war, has here set forth a comprehensive review of actual consolidations, tradings or purchases of control during the Twenties and Thirties, contrasted with the tentative and final consolidation plans of the Interstate Commerce Commission promulgated under the Transportation Act of 1920, and in the light of the changed laws covering consolidation set forth in the Emergency Transportation Act of 1933 and the Transportation Act of 1940. The purpose of the book, as well as its general tone, is set forth very early in its pages as follows:

"The story is largely one of failure, the failure of a well-intended but misdirected experiment. Not only did the consolidation plan remain merely a paper plan, but the evidence reveals that in no previous period of history of comparable length did railroad consolidation make as little progress as under the Transportation Act of 1920. What were the reasons for failure? Should blame for failure be assigned to Congress, to the Interstate Commerce Commission, or to the carriers? Or was this a collective mistake? The answers to these questions are of interest, not only insofar as they involve this particular effort to accomplish a planned program of consolidation, but also to the extent that they indicate what steps must be taken in the future to perfect a workable plan of consolidation, should consolidation again be attempted on a national scale."

The answers which Dr. Leonard finds and seeks to explain and justify lead, if his viewpoint be accepted, to but one conclusion —failure. As the author sums it up:

"Although Congress waited until 1940 to pronounce the official death of the consolidation plan which the commission had adopted pursuant to the provisions of the Transortation Act of 1920, actually this plan had never been a living guide to railroad combination. Not a single consolidated system proposed in the complete plan of 1929, or in the modified plan of 1932, was ever brought into being; and neither at the time of its birth nor at the time of its extinction did the consolidation plan correspond to the actualities of railroad control. Moreover, since the commission repeatedly modified its complete plan to suit the convenience of carriers applying under Section 5 of the act, whatever significance the plan may have had at the time of its promulgation was soon destroyed."

The author goes on to explain, however, that while but few actual consolidations were carried out during the 20 years of the Transportation Act of 1920, and none at all in direct conformity with the plans of the commission, nevertheless widescale and important unification of interest through holding companies and purchases of stock control was the dominant mode of the Twenties. Although such steps by railroad managements to extend their control and to build empires may have resulted from a fear that the plan of the commission for consolidations under the act would dismember existing rail systems or give rise to dangerously competitive new ones, almost without exception such extensions of control were not in accordance with the commission's plans and would have had to be reversed if the spirit of the law and the aims of the commission were to be realized. In short, because the commission ruled that actual consolidation of properties into a single system for ownership and operation could not be authorized until after the publication of its complete plan—which came only late in 1929—railroads were compelled to seek authority granted in Section 5 (2) of the act to acquire control of rail properties by lease, merger, or other steps short of complete consolidation.

This, according to the author, "represented a miscarriage of the statutes which had been put on the books with the intent of supplanting the partial union involved in unification with the absolute integration of companies brought about by consolidation. As the late Daniel Willard put it in an address before the Academy of Political Science, 'It is very much as though the legislature, in drafting a code to govern family relations, had, through some regrettable mistake, put a legal premium upon 'companionate marriage.'"

While certain railroad interests busied themselves during the Twenties in extending their influence, the author believes that the chief obstacle to true unification of railroads leading to abandonment of excessive duplication of lines and services, was—and is—the natural dislike of railroad executives for loss of rights and prerogatives now possessed. Put otherwise, the officers of existing independent properties do not relish the prospect of being submerged in a larger system, in his opinion. The opposition of labor organizations and local communities to railroad consolidation he considers far less formidable.

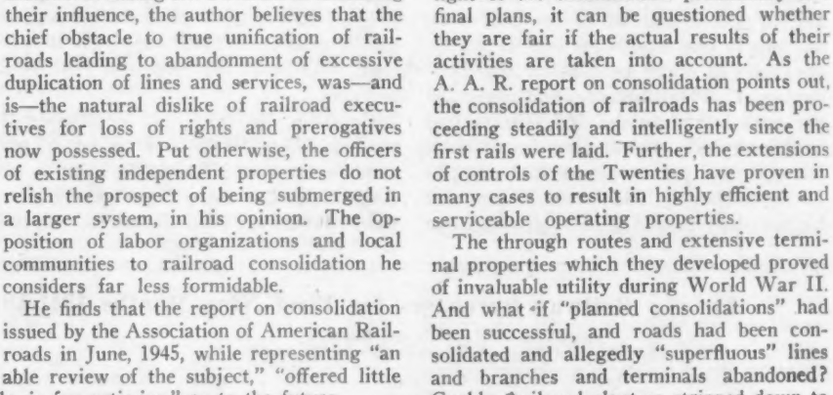
He finds that the report on consolidation issued by the Association of American Railroads in June, 1945, while representing "an able review of the subject," "offered little basis for optimism" as to the future.

To offset the alleged coolness of railroad managements toward true consolidation and the obstacles of labor's job fear and local pride, the author outspokenly advocates formal government sponsorship of a railroad consolidation program. Congress, he believes, now possesses the power under the interstate commerce clause of the Constitution to make consolidation mandatory. He points to the British Railway Act of 1921 (which consolidated 120 separate railroad companies into four regional systems) as an overwhelmingly successful precedent for American practice. While the task of carrying out a similar program in this larger country would be more difficult, he believes "there is no reason to think that a thorough integration of its railroads is beyond the authority or the administrative intelligence of this nation." The author goes on to state the belief that consolidation should not only be compulsory but should be "carefully planned," so that railroad executives will not be permitted to merge only good earners, leaving weak and less desirable pieces of property littering the countryside. "By contrast," he declares, "a general plan, based upon principles laid down by Congress, and backed up by a clear asertion of governmental authority, is the best means of insuring a rationalization of the railroad plan which will be . . . in the interest both of the industry and the public."

Whatever may be said of the author's strictures against railroad managements if their activities be read only in the narrow light of the commission's preliminary and final plans, it can be questioned whether they are fair if the actual results of their activities are taken into account. As the A. A. R. report on consolidation points out, the consolidation of railroads has been proceeding steadily and intelligently since the first rails were laid. Further, the extensions of controls of the Twenties have proven in many cases to result in highly efficient and serviceable operating properties.

The through routes and extensive terminal properties which they developed proved of invaluable utility during World War II. And what if "planned consolidations" had been successful, and roads had been consolidated and allegedly "superfluous" lines and branches and terminals abandoned? Could a railroad plant so stripped down to the traffic limits of a deep depression have handled the record traffic of the war?

* * *



The "Bournemouth Belle" pulling out of Waterloo Station, London, the first full-length Pullman train to operate in Britain since the war's outbreak

GENERAL NEWS

Embargo Called Off as Mine Strike Ends

Freight service suspended for 39½ hours; restore most passenger trains

General railroad freight, express, and parcel post embargoes which became effective at 12:01 a.m. on December 6 were suspended 39½ hours later, at 3:30 p.m. on the 7th, after John L. Lewis, president of the United Mine Workers of America, had announced that striking bituminous coal miners would return to work on December 9. At the same time the Office of Defense Transportation revoked its order under which passenger service performed by coal-burning locomotives had been cut by 25 per cent since November 24, the revocation nullifying also the amendment which would have increased the cut to 50 per cent, effective at 11:59 p.m. December 8.

The general railroad freight embargo had been imposed by the Interstate Commerce Commission in Service Order No. 649, the December 7 vacating order having been Service Order 649-A. Meanwhile, however, there had come an amendment eliminating from the embargo set-up the individual railroad permit agents who had been appointed originally, and canceling all outstanding permits issued by such agents. This amendment became effective at 5 p.m. on December 6, and for the remaining 22½ hours of the embargo's duration all rail and forwarder permits had to be approved by the general permit agent—Warren C. Kendall, chairman of the Car Service Division, Association of American Railroads. An O.D.T. statement, which revealed that the amendment was issued by the I.C.C. at the request of O.D.T., said further that the action was taken "to tighten the permit procedures."

As noted in the *Railway Age* of December 7, page 971, the embargo was a drastic ban, applying with few exceptions to all carload, l.c.l., and forwarder traffic. Except for four priority classes of goods, the parcel post embargo banned shipments of parcels weighing in excess of 5 lb. and measuring more than 18 in. in length and 60 in. in length and girth combined. Another restriction was the O.D.T. order establishing a permit system, effective December 4, on all export movements except bulk grain, livestock, and shipments for the armed forces. This, too, was revoked on December 7.

Earlier in the strike period, the I.C.C. had issued Service Order No. 645, which became effective November 18, and has now been vacated by Service Order 645-B, effective at 6 p.m. December 9. Designed to implement coal-conservation orders issued by Solid Fuels Administrator Julius A. Krug, this order established a permit system for the movement of bituminous coal stocks which had been "frozen" by the S.F.A.

Express Volume at New High

Rounding out the third quarter of 1946 with continued record-breaking months of express shipping throughout the United States, a total of 169,251,168 rail shipments were handled from January to September, an increase of over 21 million shipments over the 1945 totals for that period, the Railway Express Agency has reported. An average of 619,967 shipments were handled each day during this period, the report added, April being the peak month.

Refrigeration Men Ask Return of "Freon-12" Cylinders

If the railroads and truck lines will give greater consideration to the return of empty "Freon-12" cylinders to the manufacturers, the shortage of that refrigerant can be materially relieved, spokesmen for the Refrigeration Equipment Manufacturers Association stated at Chicago this week. They declared that a lack of the product may slow the production and installation of new refrigeration and air conditioning equipment, and interfere with the operation of present equipment.

It was pointed out that the production of the substance depends only upon the availability of cylinders. The recent truck strike and other tieups have caused empty cylinders to accumulate at points away from plants manufacturing "Freon-12," spokesmen stated. They urged all users of the product to aid in the speedy return of containers.

T. P. & W. Ordered to Operate

The Federal district court at Peoria, Ill., on December 5 ordered the strike-bound Toledo, Peoria & Western to restore service, and at the same time enjoined all parties from interfering with the operation of the road. (Details of the line's strike difficulties were summarized in the *Railway Age* of December 7, page 969.)

In a prepared statement, George P. McNear, Jr., president of the road, said that the T. P. & W. needed additional capital with which to regain and rehabilitate its properties. To do this, he stated, the director of the Office of Defense Transportation had been requested to make an advance on the amount due the road from the government as a result of its taking over of the line's properties. "Our own funds which were seized by the government in March, 1942, have been utilized," Mr. McNear declared, "and we are limited in what we can borrow without making application to the Interstate Commerce Commission and securing its approval."

War No Windfall to Railroad's Progress

A. A. R. researcher contrasts dim-out on advances with air, water boosts

While World War II had the effect of increasing the traffic load of the railroads to unprecedented heights, it did not encourage research and technical progress in the railway field as it did that of other transportation agencies. These were the conclusions reported by Loyd J. Kiernan, associate director of research of the Railroad Committee for the Study of Transportation, Association of American Railroads, in an address before the mid-western session of the American Economic and Business Council in Kansas City, Mo., on December 5. The speaker was one of three transportation students who addressed the dinner meeting of the session under the joint title, "The Effect of Wartime Transportation Developments on the National Economy".

The chairman of the session was F. H. Meyer, general agent of the Alton & Southern. Mr. Kiernan's colleagues in presenting the topic were Dr. J. H. Frederick, professor of transportation and foreign trade of the University of Maryland, and Dr. G. Lloyd Wilson, professor of transportation and public utilities of the Wharton School of Commerce and Fnance, University of Pennsylvania.

It was Mr. Kienan's opinion that research and progress on the nation's railways—both during and since the war—have been in spite of rather than because of, war-time developments,—a phenomenon largely contrary to the general experience of other types of carrier. Declared Mr. Kiernan:

"For example, our brethren engaged in air transportation are the beneficiaries of unstinted war-time outpourings of money and scientific talent for the improvement of airplanes and other facilities of air transportation, including landing fields and navigational aids. Water carriers have had the benefit of experience gained during our huge war-time activities in shipbuilding, including reductions in construction time and unit costs, and new types of vessels for amphibious operations. Some of these latter may find peace-time fields of considerable usefulness. Automotive engineering likewise had the benefit of experimentation and experience in the course of providing the myriads of self-propelled vehicles of all types needed by the armed services of our own and allied countries. Somewhat the same is true of the techniques of pipeline construction and maintenance, incident

to the installation of the 'Big Inch' and 'Little Inch' lines and the numerous other additions made during the war to pipeline capacity.

Railroads Held Back—"The contrast, the railroads have had the benefit of no such activities and expenditures in their own field. If anything was done, or any considerable sums of money were spent, by either the civilian or the military side of the war effort to expand facilities or promote knowledge in the distinctive field of railroading, the facts on the subject have escaped my attention.

"On the contrary, the railroads were all but barred from making any notable technological advancements in their equipment and facilities during the war. Construction of new passenger cars was banned, and construction of new freight cars and locomotives for domestic use was drastically restricted.

"At the same time, the manpower requirements of the armed services were such that both men and time were lacking for physical research and experimentation by members of the railway industry. Of course, other branches of the transportation industry lost workers to the armed forces, but, in their cases, some branch of the war effort took over and vastly promoted technological progress in their fields. Technological gains by the railroads during and from the war are derived entirely from advancements made by sicence in general and from their own efforts and ingenuity."

Dr. Frederick, whose address dealt entirely with the aspect of air transportation, was in close agreement with Mr. Kiernan that air transportation, at least, was vastly aided by World War II. It was during the war years, he pointed out, that air transportation "came into its own". It was his belief that at the close of hostilities we were probably 50 years further ahead in the techniques of air transportation than if the conflict had not taken place. Warning against the validity of prognostications—in which business, he declared, "there is a difficult choice between being considered feeble-minded now, or a decade hence"—the speaker nevertheless set forth some guesses as follows:

In the Stratosphere—"Taking everything into consideration, it seems probable that passenger traffic by air over transcontinental distances may soon amount to 120 per cent of the total air and rail traffic between the same points in 1940. Over 200-mi. distances a corresponding ratio might be around 50 per cent, plus a further increase from new points receiving air line service.

"Likewise, it might be said that the air lines within a very few years will be handling at least 60 per cent of the total pre-war rail and air traffic over distances of 1,000 mi. or more, and at least 25 per cent of the existing traffic over distances as short as 200 mi. There will undoubtedly be a substantial amount of additional passenger travel created by those who will make long-distance trips that they have not previously been able to spare the time to take at all; and over shorter distances a certain number of travelers who have preferred to use the private automobile rather than the rails will be won back to a common carrier by the superior speed and comfort offered by the air lines."

Dr. Wilson, speaking on "What May the Public Expect in Post-War Transportation?", pointed out that one important benefit accruing from our experience in World War II is that those transportation men—including railroaders—who served with the Office of Defense Transportation and other government agencies, or with national carriers or shippers' organizations, had personal contact with transportation problems which required the use of all forms of transportation on a nation-wide scale. Said Dr. Wilson:

"Many of these men understand much more clearly than has ever before been possible the way in which the services and problems of each type of carrier impinge upon each other and the extent to which shippers and the public are affected by these problems and must assist in their solution. This experience should be invaluable to the public and to the carriers and shippers in assisting in the development of transportation policy in the post-war period."

With regard to further developments in transportation the speaker urged that each transportation agency "continue the study and analysis of costs of transportation". He told the meeting that only through greater knowledge of costs can carriers know whether or not their rates cover "out-of-pocket costs," the fair share of full allocated costs, or of all costs plus a fair return. By this he, in no sense, implied that all rates or charges must be based on costs. "Rather," he said, "costs are necessary as guides to rate-making; not as a formula for rate-making."

Tells Canadians Their Railroads Must Stay Pre-eminent

Stating that Canadians had every cause to be proud of their railways and of the devotion to duty of railway employees during the war years, Lionel Chevrier, Canada's minister of transport, on December 7 told members of the Toronto Railway Club that "we as Canadians must be loyal to our railways as the railways are loyal to us." He pointed out that "railways can only prosper as the communities they serve prosper. The well-being of one is bound up with the well-being of the other and neither can be hurt without hurting the other."

The speaker went on to say that, while transportation by water, air and highways all had their rightful places in the transportation picture of the Dominion, "the railways must retain their pre-eminent position". He advised them that there must be "no regression but rather expansion and betterment of facilities" as the railways were "the very backbone of our economy. They were also the very backbone of our defense. We must never let ourselves forget these two vital facts. Our railways must ever be maintained at a high standard of efficiency to enable them to meet any emergency."

Mr. Chevrier expressed the belief that the prosperity of Canadian railways depends on "constant development of our country and in increased traffic which a larger population, productively employed, alone can supply." In this regard he thought Canada would have to embark upon a scheme of selective immigration, "partly for her own economic salvation" and partly to ease the problems of over-populated nations.

To provide Canadian railways with the traffic commensurate with their large trackage, he thought that "we must have the industrial activity and the population which will produce and consume much of our country's products."

Judge Fletcher Elected A. A. R. President

At a meeting of the directors of the Association of American Railroads in New York December 12, held in conjunction with a member road meeting, the office of president of the association, made vacant by the recent death of John J. Pelley, was filled by the election of R. V. Fletcher, who agreed to serve until a permanent successor can be found. At the same time J. B. Hill, president of the Louisville & Nashville, was added to the association's executive committee, thus enlarging its membership to seven.

New members of the A. A. R. board of directors are: George F. Ashby, president of the Union Pacific, W. G. Vollmer, president of the Texas & Pacific (successors to R. L. Williams, president of the Chicago & North Western, and Wilson McCarthy, trustee of the Denver & Rio Grande Western), William White, president of the Delaware, Lackawanna & Western (successor to R. J. Bowman, president of the Chesapeake & Ohio), and E. S. French, president of the Boston & Maine-Maine Central (successor to H. S. Palmer, president and trustee of the New York, New Haven & Hartford).

Southern Speeds Trains

A general speeding up of passenger service on the Southern was effective December 12. The program embraces reductions ranging up to nearly two hours in the traveling time of some of the trains

Among affected trains are the "Birmingham Special," with running time from Washington to Birmingham cut by one hour and 55 minutes; the "Pelican," with time from Washington to New Orleans reduced by one hour and five minutes; and the "Carolina Special," with time from Cincinnati to Charleston reduced by one hour and 20 minutes.

Seven R. R. Div. Members Made Fellows of A. S. M. E.

At the luncheon of the Railroad Division, American Society of Mechanical Engineers, held on December 5 during the annual meeting of the society at New York, the following members of the division were made fellows of the society: E. D. Campbell, vice-president in charge of engineering, American Car & Foundry Co.; William A. Newman, manager, research department, Canadian Pacific; Ralph P. Johnson, chief engineer, Baldwin Locomotive Works; A. G. Trumbull, chief mechanical engineer, Chesapeake & Ohio; William M. Sheehan,

vice-president, General Steel Castings Corp.; F. H. Hardin, president, Association of Manufacturers of Chilled Car Wheels, and Carlton D. Stewart, vice-president, Westinghouse Air Brake Co.

The citations were read by President D. Robert Yarnall, president, Yarnall-Waring Company. In the absence of Messrs. Sheehan and Hardin, the awards were accepted by Charles P. Whitehead, president, General Steel Castings Corp., and Paul W. Kiefer, chief engineer motive power and rolling stock, New York Central, respectively.

Diesel-Electric Power for Boston's Charter Railroad

With five new Alco-G.E. 44-ton Diesel-electric locomotives replacing three "Climax" steamers, Boston's Union Freight Railroad can now flexibly operate trains in compliance with city ordinances and road limitations.

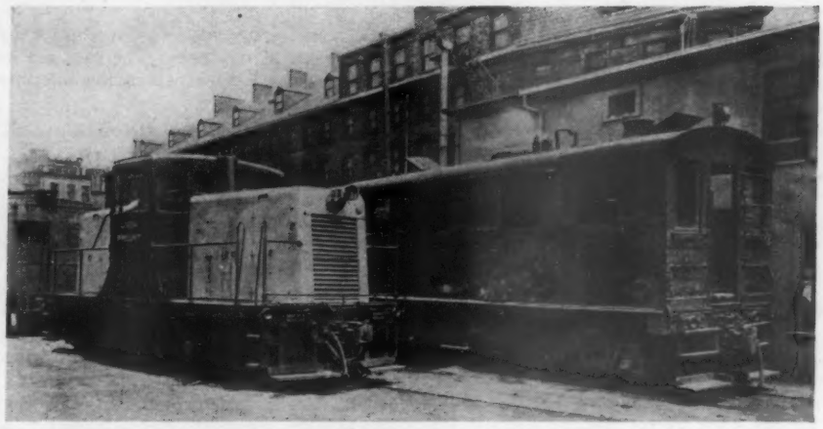
Granted an irrevocable charter in 1872, the Union Freight connects Boston's North and South stations, along busy Atlantic and Commercial avenues. Its 2½ miles of track handle an average of 5,500 cars per month for the New York, New Haven & Hartford, the Boston & Albany, and Boston & Maine entering and leaving the city, as well as service to 230 consignees along the right-of-way.

City ordinances impose some unusual operating restrictions. Between 7:00 a. m. and 7:00 p. m. train length is limited to 15 cars. The Union Freight handles these trains with a single 44-ton Diesel-electric locomotive. From 7:00 p. m. to 7:00 a. m., with a 35-car train limit, two 44-ton units in multiple handle the job easily.

Speed is limited to about three miles an hour, because trains must always be preceded by a man on foot, carrying a red flag during the day and a red lantern at night. Trains must give right-of-way to fire engines, police cars, ambulances, and all other emergency vehicles. Cross streets must never be blocked by standing freight cars.

The Northern Avenue bridge at the entrance to the New Haven freight yards presents the greatest load restriction of the entire Union Freight system. Maximum allowable load on the span is 90 tons. The two 44-ton Diesel-electrics, however, operating in multiple, clear the bridge with a 2-ton safety margin.

Maintenance of the new Diesel-electric locomotives, when necessary, will be performed at the Union Freight's own engine house. In the past, steam locomotives had to be removed to the New Haven shops for any heavy repairs.



One of the Alco-G.E. 44-ton Diesel-electric locomotives alongside a retired "Climax" steam locomotive

New Post for Alexander Konkle

Alexander Konkle has been elected executive vice-president of the Machinery & Allied Products Institute. He joined the institute in 1934 and served as its secretary through 1940, when he was elected executive vice-president of the Kelly Steel Works, Chicago, which position he held concurrently with that of assistant treasurer of the institute until his recent appointment.

Freight Car Loadings

Loadings of revenue freight for the week ended December 7 totaled 729,084 cars, the Association of American Railroads announced on December 12. This was an increase of 68,173 cars, or 10.3 per cent, above the previous week, a decrease of 47,292 cars, or 6.1 per cent, below the corresponding week last year, and a decrease of 64,072 cars, or 8.1 per cent, below the comparable 1944 week.

Loading of revenue freight for the week ended November 30 totaled 660,911 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

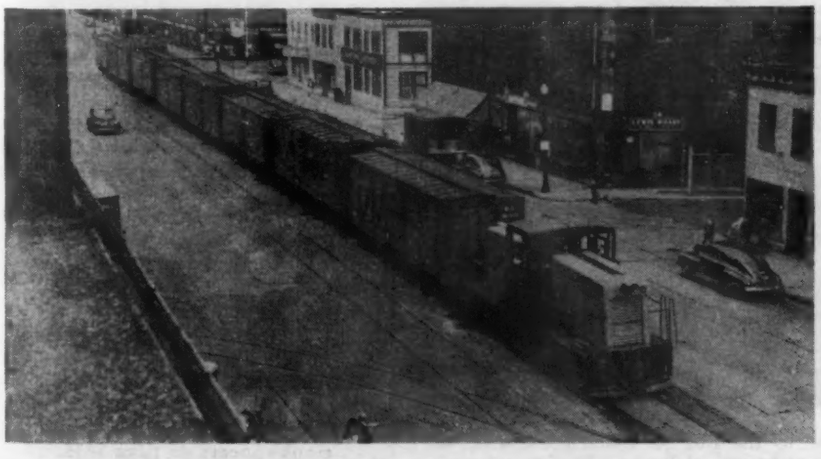
Revenue Freight Car Loading

For the Week Ended Saturday, November 30

District	1946	1945	1944
Eastern	136,677	151,604	157,061
Allegheny	137,774	168,181	177,328
Pocahontas	15,254	56,326	52,463
Southern	108,325	128,399	120,660
Northwestern	88,487	94,544	89,409
Central Western	116,842	136,492	135,794
Southwestern	57,552	68,228	75,121
Total Western Districts	262,881	299,284	300,324
Total All Roads	660,911	803,774	807,836
Commodities:			
Grain and grain products	46,848	58,810	47,694
Livestock	17,566	25,078	22,630
Coal	52,563	179,764	169,231
Coke	8,998	13,510	13,381
Forest products	39,258	33,011	38,727
Ore	22,327	14,767	13,589
Merchandise l.c.l.	117,599	116,905	106,033
Miscellaneous	355,752	361,929	396,551
November 30	660,911	803,774	807,836
November 23	806,583	716,556	768,338
November 16	917,124	800,534	863,992
November 9	913,345	838,218	839,504
November 2	922,312	851,962	893,069
Cumulative total, 48 weeks	38,319,186	39,176,328	40,517,049

In Canada.—Car loadings for the week ended November 30 totaled 78,037 cars, as compared with 78,711 cars for the previous week, and 73,296 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
Nov. 30, 1946	78,037	36,919
Dec. 1, 1945	73,296	35,084
Cumulative totals for Canada:		
Nov. 30, 1946	3,407,047	1,659,198
Dec. 1, 1945	3,364,834	1,679,078



A 44-ton Diesel-electric in service on the Union Freight Railroad

Proposes Gigantic All-Purpose Terminal for Chicago

The construction of a huge general traffic terminal at Chicago—covering 20,000 acres, containing many buildings and agencies and embodying rail, air, highway, urban surface and subway transportation facilities—was suggested there this week by Col. Francis H. Miles, Jr., ordnance department, United States Army, one of the Army's leading industrial engineers. The

project, presently estimated to cost a billion dollars and require 10 years to complete, was outlined by Colonel Miles in a 20-page report which he submitted to city and state post-war planning groups.

The largest single building in the project, Colonel Miles said, would be the railroad station, with 115 million square feet of space and capacity for 21 railroads and affiliated services. Such a terminal, he asserted, would make Chicago the chief center for movement of goods and peoples on the North American continent.

Electric Cars for New Zealand

The first two multiple-unit electric motor coaches made by the English Electric Co., Ltd., for the New Zealand Government, were recently shipped at the Liverpool Docks, in England. The contract for these cars is a repeat of the one received by the company in 1936 for the six original two-coach multiple-unit trains with which the electrification of the Wellington-Johnsonville line was initiated. The coaches handle the heavy suburban passenger traffic at peak periods over the heavy grades of that line, each motor coach being used with a trailer. The two-car units can be coupled together and operated in multiple-unit as four-car or six-car trains.

An acceleration of approximately 1.3 m.p.h. p.s. can be obtained with a loaded two-coach unit in the ruling grade of 2½ per cent. On the lines with easier grades, the motor cars can be operated with two trailers to form three-car units which can be made up into multiple-unit trains of six or nine cars. Direct current at 1,500 volts is collected from the overhead contact wire by a double-pan light-weight pantograph, and each motor car has four 750-volt, 165-hp., one-hour rated motors connected in pairs in permanent series, one pair on each truck. The motors are self-ventilated, the air being taken through metallic filters. The coach equipment provides for electro-pneumatic control with automatic acceleration, and for automatic train control by track operated trip gear. The cars are of all-steel welded construction, the interiors being sound-insulated.

Netherlands Railways Picture Damage by Nazis

A booklet entitled "They Had 7 Months" was recently published by the Netherlands Railways (Utrecht, Holland). The text and pictures are testimony to the deliberate and diabolic destruction of all railroad equipment and facilities by the Nazis in the last seven months before they were driven out of the "low countries."

The first few pages of the 24-page pamphlet show the Netherlands railways as they were in May, 1940, when the Germans marched in. Pictured are various types of equipment, the "little service touches" offered to the traveler. The booklet than states " . . . except for the theft of a great number of coaches and freight cars—the Netherlands railway-system was to all intents and purposes still intact some four years after the occupation, that is from May, 1940, to September, 1944. Then came the seven last months."

At noon, September 17, began the airborne invasion by Allied troops. At 5:45 p.m. that same Sunday a broadcast from London stated that the calling of a general railway strike in the low countries could do much to impede the transport or concentration of Nazi forces. The railway workers responded. As the booklet puts it, "before the next day dawned all activity on the railroads in the still occupied part of Holland had ceased. Not a train moved . . . stations were deserted . . . cars empty . . . engines unstoked . . . no current ran in overhead cables, and along the entire road the signals were at 'stop.' "

Some 30,000 railroad personnel went underground to remain "invisible" for seven months.

Immediately there began in reprisal the methodical and complete destruction by the German invaders of trains, roadbeds, bridges, stations and machinery. Pictures of cars gutted by fire and filled with jagged holes, overhead wires systematically cut and dragging on the ground, empty roadbeds, smashed radio and signal equipment, the transformation, by removal of tracks, buildings, and switches of a formerly busy terminal yard into a spot where children might safely play, the carving up of spans of bridges which fell into canals and rivers, the burning and other forms of demolition of railway stations . . . all are starkly displayed in the booklet.

The following statistics are the booklet's estimates of damage accomplished when the Germans capitulated on May 5, 1945: Locomotives, 84 per cent destroyed or stolen; passenger cars, 94 per cent destroyed or stolen; freight cars, 98 per cent destroyed or stolen; Diesel-electric trains, 100 per cent destroyed or stolen.

The last few pages describe the recovery and reconstruction work done since May, 1945—a slow process due to the shortages of materials needed for the rebuilding job.

New Haven Schedules Winter Pilgrim Tours

A series of 24 all-expense winter Pilgrim Tours to New England and Canada was launched on December 1 by the New Haven. The tours run from three to 10 days in length and cost as little as $23.01 for a three-day trip.

Club Meetings

The Railroad Enthusiasts, New York division, who will meet December 18 in room 5928, Grand Central Terminal, at 7:45 p. m., will have as their speaker Thomas L. Hawkes, station master at Pennsylvania station, New York. Mr. Hawkes will speak on "The World's Busiest Station".

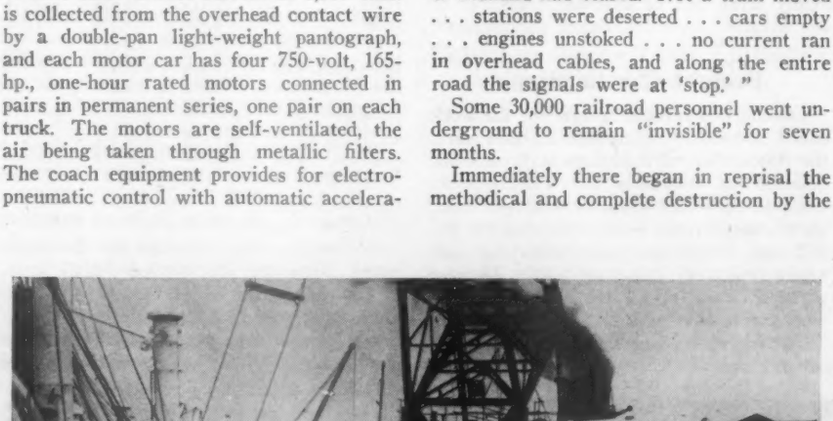
The Railway Club of Pittsburgh will hold its annual election of officers at a meeting at the Fort Pitt hotel, Pittsburgh, Pa., December 19 at 8 p. m.

The annual Christmas luncheon of the Metropolitan Traffic Association of New York will be held in the main ballroom of the Hotel Pennsylvania, New York, on December 19.

Travel Exposition Next May

An international travel exposition in Grand Central Palace, New York, May 5 through 10, 1947, has been announced. The exposition will dramatize the attractions of vacation spots in this country, as well as foreign lands.

Exhibitors will include railroads—American, Canadian and Mexican—air lines, steamship lines, bus systems, highway travel services and displays from widely scattered recreational areas, as well as industries whose products touch on travel.



One of the electric railway coaches supplied by the English Electric Co., Ltd., for the New Zealand Government, being loaded at Liverpool Docks. Photograph courtesy "The Electrician".

A list of current publications appears on page 1035.

With the Government Agencies

Berge States Position on Rate-Bureau Matter

Letter to Steelman makes first written statement of Justice Department's view

Certificate No. 44, which, until its expiration on October 1, accorded carrier rate bureaus wartime immunity from the anti-trust laws, will not be reinstated, as Director J. Monroe Johnson of the Office of Defense Transportation urged, but Colonel Johnson has succeeded in having put on record what he calls "the first written statement from anyone in authority in the Department of Justice," setting out that department's position that the bureaus may continue their normal operations without fear of additional government suits until there has been an adjudication of the issues in one of the two cases pending against the railroads. These are the state of Georgia's anti-trust suit, which is before the Supreme Court, and the so-called Lincoln (Nebr.) case involving the complaint against western roads and the Association of American Railroads.

Johnson Demands "Dignity"—As noted in the *Railway Age* of October 12, page 609, oral assurances on the matter had previously been obtained from Department of Justice officials by J. Carter Fort, vice-president and general counsel of the A. A. R. However, that did not satisfy Colonel Johnson, who represented to Director John R. Steelman of the Office of War Mobilization and Reconversion that the certificate should be reinstated, that being the O. D. T. director's idea of the "dignified" course for the government to follow (see *Railway Age* of October 19, page 655).

The outcome was an exchange of correspondence, copies of which were sent this week by Colonel Johnson to R. V. Fletcher, acting president of the A. A. R., and J. M. Hood, president of the American Short Line Railroad Association. The correspondence includes a November 25 letter written by Assistant Attorney General Wendell Berge, who is in charge of the Anti-Trust Division, to Mr. Steelman. A copy of this Berge letter, which includes the statement of the Department of Justice's views, was sent with a December 5 letter of transmittal by Mr. Steelman to Colonel Johnson. The O. D. T. director acknowledged receipt of them in a December 6 letter to Mr. Steelman. The Berge letter, copies of which, Mr. Steelman told Colonel Johnson, "may be furnished to anyone who is interested," read as follows:

"I have your letter of October 25, 1946, in which you request that we advise you as to the course of action which the Department of Justice intends to pursue in the light of the termination on October 1, 1946, of Certificate 44, issued by the chairman of the War Production Board on March 20, 1943, under the provisions of section 12 of the Small Business Mobilization Act.

"Certificate 44 approved joint action by common carriers and freight forwarders, through rate bureaus, rate confeences or similar organizations, in the initiation and establishment of rates, fares, and charges. Carriers have claimed that, under the provisions of section 12 of the Small Business Mobilization Act, joint action taken through such organizations was immunized from the operation of the anti-trust laws. The expiration of the certificate terminates any such immunity claimed under that statute.

Berge Will Wait, "Except—"—"In view of the Department of Justice, practices exist in the rate bureaus, rate conferences, and similar organizations which violate the anti-trust laws. Two cases are now pending in the courts to enjoin these practices. One case, pending in the Supreme Court, was initiated by the state of Georgia; another case, pending in the District Court at Lincoln, Nebraska, was instituted by the United States. The department does not plan, in the absence of unusual circumstances, to institute additional anti-trust suits based on the same issues presented in the *Georgia* and *Lincoln* cases and involving only actions occurring prior to the time when the issues have been adjudicated in one of those cases."

It was in his letter transmitting the Berge letter to Colonel Johnson that Mr. Steelman advised the O. D. T. director that Certificate 44 would not be reinstated. "Taking into account the position of the Department of Justice," the O. W. M. R. director wrote, "I do not feel that I would be justified in ordering the reinstatement of Certificate No. 44 or any similar certificate." It was in the Johnson-to-Steelman letter of December 6, which closed the file, that the O. D. T. director characterized the Berge letter as "the first written statement that I have seen from anyone in authority in the Department of Justice setting forth the views of the department." And Colonel Johnson went on to say that, "in the light of the discontinuance of Certificate 44," he

(*Continued on page 1022*)

Figures Revenue Yield from Rate Increases

I.C.C. bureau estimates it at $1,004 million a year if all advances are made

Estimating the prospective yield from the freight-rate increases approved in the Interstate Commerce Commission's Ex Parte 162 decision of December 5, the commission's Bureau of Transport Economics and Statistics sets up in the latest issue of its "Monthly Comment" a table indicating that the additional annual revenue will amount to $1,004 million, or $670 million more than would have been produced by the temporary increases which have been in effect since July 1 as authorized by the so-called interim decision of June 20. The commission's final decision of December 5 is reviewed elsewhere in this issue.

As noted there, the summary statement accompanying the report calculated that the authorized increases, which will supersede the interim adjustment, would advance the pre-July 1 rates by an over-all average of 17.6 per cent for the country as a whole, the average for the Eastern district being 17.9 per cent and that of all other districts 17.4 per cent.

The bureau's estimate of the yield is constructed on the basis of these percentages, and it assumes that "all rates without exception are raised by the full amount of the authorized increases." Also, the estimate is for a "constructive calendar year," i.e., the freight revenues for this year's third quarter are projected by districts to a full-year basis, using the percentage of the third-quarter figures of Class I roads, by districts, to the annual district totals in the period 1926-1945. See the resultant table below.

"Adjusted" Earnings—In making its usual analysis of the latest financial reports, the bureal recalls how the November issue of the "Comment" restated the reported figures to eliminate the effect of "unusual accounting adjustments such as federal income tax credits and charges and concurrent tax credits resulting from accelerated amortization of defense projects." The present issue makes like adjustments in the reported earn-

District	Base revenue constructive calendar year	Base revenue plus increases	Estimated freight revenue: Base interim increase in rates authorized in decision of Dec. 5, 1946	Total amount of increases	Amount of increase in addition to interim
	Millions	*Millions*	*Millions*	*Millions*	*Millions*
Eastern district, including Pocahontas region	$2,607	$2,790	$3,074	$467	$284
Southern region	811	851	952	141	101
Western district	2,275	2,386	2,671	396	285
Total	$5,693	$6,027	$6,697	$1,004	$670

ings for the first 10 months of this year and 1945. The adjusted figures show a net railway operating income for this year's first 10 months of $365,827,000, or 58.6 per cent less than the comparable 1945 figure of $883,561,000. The reported net railway operating income for the first 10 months of this year was $450,730,000, down 45.7 per cent from 1945's $830,561,000.

The reported net income for the 12 months ended with October was $109,561,000, a black figure which turned up only after federal income tax credits of $308,106,000 had more than offset the $198,545,000 deficit before taxes. Gross for the 12-months period was $7,610,514,000, down $1,555,000,000 from the $9,165,646,000 reported for the 12 months ended with October, 1945.

October freight revenues on a daily basis were 3 per cent above September and 15.2 per cent above October, 1945. Passenger revenues were down 9.3 per cent from the previous month and 39 per cent below October, 1945. The October freight revenue index (based on the 1935-1939 monthly average as 100) was 211.2, compared with September's 205.1 and October, 1945's 183.4. The passenger revenue index was 255.1, compared with September's 281.3 and October, 1945's 418.3.

Discussing the freight traffic outlook, the bureau points out that the Production and Marketing Administration of the Department of Agriculture has estimated December requirements for grain and grain products at 48,300 cars per week—"higher than actual movement in any December since 1928." The needs for January and February are estimated at 49,750 and 47,500 cars weekly, respectively. December livestock loadings are expected by P. M. A. to average 17,350 cars per week, 1.8 per cent below December, 1945; while loadings of 15,800 and 15,700 cars per week are expected in January and February, respectively. As to perishable and semi-perishable commodities normally moving in refrigerator cars, P. M. A. estimates that this month's loadings will total 188,100 cars, 0.8 per cent under December, 1945.

Coal and Ore Traffic—With respect to iron ore traffic, the I. C. C. bureau estimates that this season's total lake movement will be about 59.5 million gross tons, some 20 per cent less than the 1945 movement. Total coal dumpings at the lower lake ports through December 1 totaled 49.3 million gross tons, as compared with 50.2 million tons through December 1, 1945. In the latter connection the bureau observes that the miners' strike prevented the season goal of 50 million tons being attained in November, "although it is hoped navigation may be maintained late enough in December to reach the goal."

Commenting on a statement it issued recently on railroads in receivership and trusteeship, the bureau points out that the number of steam roads in the hands of the courts dropped from 103 at the close of 1940 to 72 on December 31, 1945. The mileage operated by such roads in 1940 represented 30.51 per cent of the total operated by all line-haul steam roads, as compared with 16.59 per cent in 1945. The statement further showed that as of June 30, 1946, 70 roads were still in the hands of the courts.

Another table in the "Comment" shows how the par value of unmatured railway funded debt in the hands of the public (that portion not held by railways) declined from $11,880 million on December 31, 1930, to $8,659 million at the close of 1945, a reduction of $3,221 or 27.13 per cent. As the bureau explains, these reductions were in large part the result of financial reorganizations, although there were involved also substantial voluntary debt reductions by many roads. Railroad capital stock in the hands of the public meanwhile dropped from $7,186 million in 1930 to $7,008 million in 1945, a reduction of 2.48 per cent.

Air Conditioning Delays—Other sections of the "Comment" present, with the bureau's observations thereon, data on the number of air-conditioned cars, railway electrified mileage, and the weight of rail. The figures on air-conditioned cars show that as of December 31, 1945, 12,685 or 27.1 per cent of the 46,863 passenger-train cars owned by the railroads and the Pullman Company were air conditioned. The bureau breaks down the figures to show that "over 90 per cent of the diners and of the club, lounge and observation cars are air conditioned, but no such progress has been made in the case of other passenger equipment." Noting further that "less than 60 per cent of the parlor and sleeping-car equipment is thus equipped and but a little over 30 per cent of the coaches," it concedes that "quite probably the extension of air conditioning was seriously retarded by the war."

The figures on electrified mileage show that the total of such mileage (all tracks) operated by Class I line-haul roads reached a peak of 6,855 miles of track in 1938. "Since then," the bureau continues, "it has shown a rather consistent downward trend to 6,495 miles at the close of 1945. The decrease from 1938 to 1945 was 5.3 per cent. In the Eastern and Southern districts the actual changes in such mileage since 1938 have been comparatively small, but in the Western district the miles of track electrified declined, from a peak of 1,429 in 1935 to 1,052 in 1945. During the year 1945, the Spokane, Portland & Seattle discontinued the electrified operation of 170 miles of track and substituted Diesel-electric motive power."

Weight of Rail—With respect to the weight of rail, the figures show that as of December 31, 1945, 49.51 per cent of all main-track mileage had rail weighing 100 or more pounds per yard. Ten years earlier, on December 31, 1935, the percentage was 35.61. In commenting on its table setting forth these rail data, the bureau calls attention to the fact that "all weight groups of 110 lb. and up showed mileage increases in 1945 as compared with 1944 whereas all groups below that figure showed decreases with only two exceptions." The latter were the small increases (98 miles and 9 miles, respectively) in the mileages laid with 80 to 84-lb. and 95 to 99-lb. rail.

"Of particular interest," the bureau goes on, "are increases between 1944 and 1945 of 2,580 miles of main track laid with rails weighing 110 to 114 lb. per yard and of 1,865 miles laid with 130 to 139-lb. units." It also points out that, in 1945, the tonnage of rails, both new and second hand, laid in replacement by Class 1 line-haul roads "was larger than in any year since 1929." The 1945 tonnage of new rails laid was 1,613,548, compared with 1944's 1,561,638 and 1929's 1,958,489. The tonnages of second hand rail laid were 1,342,188 in 1945, 1,316,430 in 1944, and 1,651,966 in 1929.

926 Surplus U. S. Locomotives to Be Sold in Europe

A total of 926 United States-built locomotives, which have been declared surplus to the occupation needs of the U. S. Army, are being offered for sale in Europe, it was announced this week by Major General Donald H. Connolly, Foreign Liquidation Commissioner. All the locomotives are standard gauge.

According to the Department of State, the locomotives include 694 coal-burning, freight or passenger models, 117 coal-burning switch engines, 101 freight-type oil burners and 14 oil-burning switch engines. The coal-burners, the bulk of which are stored in German yards in the Frankfurt and Stuttgart areas, are classified in "used, fair" condition and will be sold at $10,000 each. About half of them are outfitted with

* *

Paintings used in a series of war-time advertisements by the American Locomotive Co. have been presented to the Historical Society of Pennsylvania. W. S. Morris (left), vice-president of Alco, makes the presentation to C. F. Jenkins, the society's president

new electrical systems and lubricating systems for pressure greasing.

The 115 oil-burning locomotives, which currently are in service on French roads, have not as yet been fully classified, but will be sold at prices in line with their condition. The State Department said that all prices on the oil-burners will be less than 25 per cent of the original cost to the U. S.

Locomotives purchased in the U. S. occupied zone of Germany will be delivered to the buyer at any desired German port or frontier point, while those in France will be sold on an "as is, where is" basis.

Status of Napierville Junction

Division 3 of the Interstate Commerce Commission has found that the Napierville Junction, a subsidiary of the Delaware & Hudson Company, is not a common carrier subject to Part I of the Interstate Commerce Act. The report is in the Docket No. 29400 investigation of the matter which was instituted by the commission in October, 1945.

The Napierville's line, extending from Delson Junction, Canada, to the international border at Rouses Point, N. Y., is a connecting link between the Delaware & Hudson and the Canadian Pacific. "Respondent's charter," the commission's report said, "authorizes it to construct and operate a railroad in Canada. There is no evidence showing that it has been authorized to operate, or is operating to any point in the United States."

Southern Pacific Fined $2,000 in California Court

Entering a plea of nolo contendre to a criminal information in 20 counts charging it with having unlawfully extended credit to certain consignees at Sacramento, Calif., the Southern Pacific was fined $2,000 at San Francisco on December 6, it was announced this week by Secretary W. P. Bartel, of the Interstate Commerce Commission. The information was filed by the United States attorney for the Northern district of California.

The information, which charged the S. P. with violating Section 5(2) of the Interstate Commerce Act and the regulations of the commission promulgated thereunder, stated that the maximum length of time permitted within which to collect freight charges was 96 hours, but that the road had not collected freight charges on the shipments in question until two or three weeks had elapsed beyond the required time.

I. C. C. Launches New Study of Motor Safety Rules

The Interstate Commerce Commission has instituted an investigation to determine whether there should be a revision or expansion of its rules and regulations relating to the safety of operation of motor vehicles by common, contract, and private carriers. The proceeding is docketed as Ex Parte No. MC-40.

The order instituting it stated specifically that Parts 1 to 7, inclusive, of the Motor Carrier Safety Regulations, Revised, would be involved, but added that the investigation's scope would be sufficiently broad to embrace any suggestions as to safety rules.

Interested parties may submit their views in writing to the director of the commission's Bureau of Motor Carriers on or before February 1, 1947. Meanwhile, the director is directed by the order to prepare a proposed revision of the rules, in which connection he is authorized to hold informal conferences on the matter with interested parties, government agencies, and others.

Emergency Board

Chairman H. H. Schwartz of the National Railway Labor Panel has appointed an emergency board from the panel to investigate a dispute between the Charleston & Western Carolina and certain of its employees who are represented by the Brotherhood of Railway Clerks. The dispute involves working rules.

Chicago, Rock Island & Pacific Fined $800 in Kansas Court

Secretary W. P. Bartel of the Interstate Commerce Commission has announced that the commission has been advised that on November 25 the Chicago, Rock Island & Pacific entered a plea of guilty to an information in four counts charging violation of Section 233 of the Criminal Code and was fined $800. The situation arose out of the failure of employees to comply with the commission's regulations governing the transportation of explosives and other dangerous articles.

The specific offenses in the information charged that the road placed a car placarded "Explosives" next to a locomotive in yard service; cut off a similarly placarded car while in motion, permitting it to run on its own momentum into a track, and failed to give notice to a train crew of the presence of cars placarded "Explosives" in a train.

Memorial Services Conducted for Commissioner Porter

Adoption by the Interstate Commerce Commission of resolutions presented by the Association of Interstate Commerce Commission Practitioners in memory of the late Claude R. Porter, who prior to his death on August 17 had served since 1928 as a member of the commission, marked memorial services held in honor of Mr. Porter at Washington, D. C., on December 10. The resolutions were read by E. H. DeGroot, Jr., chairman of the association's committee on memorials. Commissioner Porter's death was noted in *Railway Age* of August 24, page 351.

Responding in behalf of the commission, Commissioner Clyde B. Aitchison said that the association's resolutions would be made a part of the permanent records of the commission. He announced that a portrait of Commissioner Porter has been placed in a cabinet between the commission's main hearing rooms, along with portraits of other former commissioners.

"The moving words of the resolution of the association . . . leave little to be added by us, except once more to voice our deep and continuing sense of personal loss, and our keen and understanding sympathy for those dear to our departed brother, whom he has left behind for a while," Commissioner Aitchison said in part. "There was much of the stoic in his philosophy, and this was exemplified in the final crisis of his life. Despite the cumulative effects of the . . . war years, throughout the heat of a Washington summer, because the work of the commission laid a heavy responsibility upon him, he remained at his place of duty, even when great personal grief shocked him, until, overtaxed by it all, he fell at his post. His action spoke for him words he was too proud to say; but centuries before Laelius the Wise said them for him: 'I had no right by reason of any personal misfortune to be withdrawn from a duty which I had regularly performed, as long as I was well; nor do I think that anything that can happen will cause a man of principle to intermit a duty.'"

Commissioner Aitchison also reviewed Commissioner Porter's career as a government employee and read letters received by the commission from the chairmen of Senate and House committees on interstate and foreign commerce following Mr. Porter's death. Others who spoke briefly at the services included R. Granville Curry, president of the practitioners' association, and D. W. Knowlton, chief counsel of the commission.

Rate-Case Notices to O.P.A. Become a Formality

Notices which common carriers and other public utilities are required by the Stabilization Act to file with the Office of Price Administration when they apply to regulatory bodies for rate increases should still be filed to meet the legal requirements of the act, but need not contain all the details formerly required, the O. P. A. has announced. The action became effective December 7.

According to the O. P. A., intervention formerly taken by that agency when it considered requested rate increases would be contrary to the stabilization program has been curtailed at the direction of John R. Steelman, director of the Office of War Mobilization and Reconversion. The O. P. A. said that the recent termination of practically all price controls constitutes such a major revision of the stabilization program that intervention in common carrier and other public utility rate increases no longer is justified.

November Employment

Railroad employment increased 0.45 per cent—from 1,375,844 to 1,381,977—during the one-month period from mid-October to mid-November, but the mid-November total was 1.77 per cent under that of November, 1945, according to the preliminary summary prepared by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index number, based on the 1945-39 average, was 134.2 for November, as compared with 130.4 for the previous month and 136.6 for November, 1945.

November employment was above that of the corresponding 1945 month in only two groups, the increases being 4.37 per cent in transportation employees other than

train, engine and yard, and 2.34 per cent in transportation (train and yard service). The decreases ranged from 0.13 per cent in the executives, officials and staff assistants category to 8.6 per cent in the maintenance of way and structures group.

As compared with the previous month, there were increases in six groups, ranging from 0.4 per cent in the maintenance of equipment and stores group to 1.51 per cent in transportation, other than train, engine and yard. The only decreases were 0.12 per cent in executives, officials and staff assistant and 0.58 per cent in maintenance of way and structures.

Commission Postpones Hearing Date on Furlough Fares

The Interstate Commerce Commission this week postponed the hearings previously scheduled for December 11 on suspended tariffs whereby railroads and motor carriers propose to cancel furlough fares for military personnel in the territory generally east of the Mississippi river. The postponement notice said that the new hearing date would be announced later. (See *Railway Age* of December 7, page 977.)

Representation of Employees

The International Association of Machinists and the Brotherhood of Railway Carmen of America, each operating through the Railway Employees' Department, American Federation of Labor, have supplanted the Federated Shop Crafts of the Bessemer & Lake Erie, as collective bargaining representatives of machinists and carmen, including coach cleaners, helpers and apprentices, employed by the B. & L. E., according to the results of a recent election which has been certified by the National Mediation Board. In the same election, Federated retained its right to represent the road's sheet metal workers.

As the result of another election, the Brotherhood of Locomotive Firemen & Enginemen, by virtue of a 43 to 32 victory over the Brotherhood of Locomotive Engineers, retained its right to represent locomotive firemen, hostlers and hostler helpers employed by the Atlanta & West Point-Western of Alabama.

In other elections involving employees who formerly were without representation, switchtenders employed by the Macon Terminal are now represented by the International Association of Railway Employees; and—road conductors employed by the Castleman River are represented by the Brotherhood of Railroad Trainmen while that road's engineers, firemen, hostlers and hostler helpers are represented by the B. of L. E.

Car Service Orders

Service Order No. 624, which established a permit system for the movement of export grain to North Atlantic ports has been modified by the Interstate Commerce Commission by Amendment No. 2, effective December 7. The amendment adds a sub-paragraph providing priority in car supply over all other traffic for loading export grain when Agent A. S. Johnson certifies in writing that the cars ordered are intended for loading with grain for the foreign relief program.

Amendment No. 2 to Service Order No. 105 postpones, from December 10 until April 30, 1947, the expiration date of that order which prohibits the back-hauling of company material by railroads.

Amendment No. 2 to Service Order No. 129 postpones, from December 10 until March 5, 1947, the expiration date of that order which suspends section 2 of Rule 32 of the Consolidated Freight Classification insofar as it requires payment for body ice taken from refrigerator cars by consignees.

Service Orders Nos. 550, 551, and 552, which respectively provide permit systems to control the movement of lake-cargo coal, tidewater coal to Hampton Roads, Va., ports, and tidewater coal to North Atlantic ports have been amended to set back their expiration dates from December 15 to April 30, 1947.

Service Order No. 354-A, effective December 9, vacated Service Order No. 354 which had directed connections of the Toledo, Peoria & Western to reroute traffic that could not be handled by that strike-bound road.

The Office of Defense Transportation has modified its minimum-loading order for carload freight to permit stop-offs for partial loading and partial unloading within the switching district of the point of origin or destination. The modification, embodied in Amendment No. 4 to General Order O.D.T. 18A, effective December 6, does not apply to carload freight having origin and destination in the same switching district.

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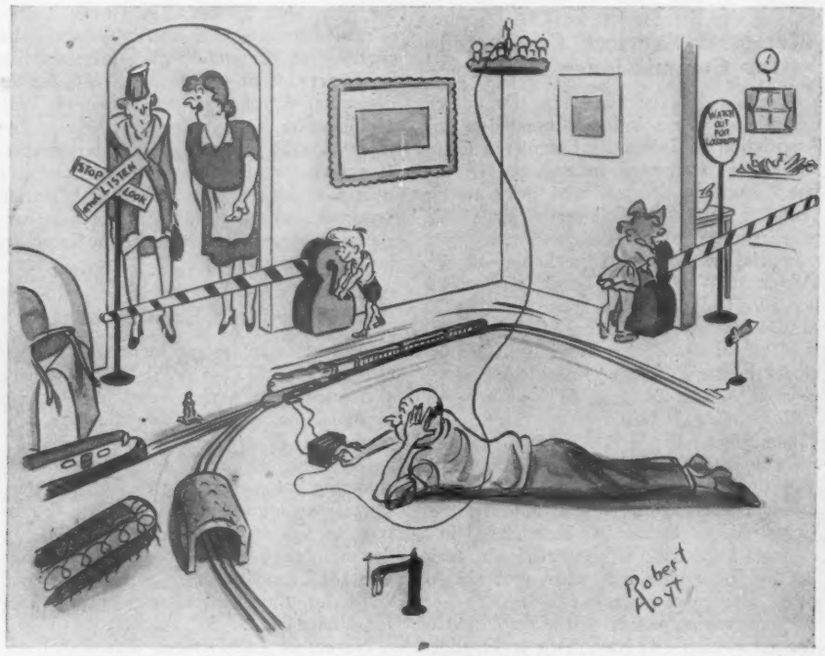

"I'm fighting now for an appropriation for grade crossing elimination."

Berge States Position on Rate-Bureau Matter

(*Continued from page 1019*)

felt sure "that the transportation industry generally will welcome the assurance by Mr. Berge."

Meanwhile Mr. Berge this week made a speech, entitled "The Threat to Independent Business," before the Chicago Chapter of the New Council of American Business. There he identified the "persistence of patterns of thinking fostered by wartime emergency measures" as one of the major obstacles confronting the Anti-Trust Division "in its effort to restore and maintain free competitive enterprise." To illustrate his point Mr. Berge asserted that, among other instances of what he had in mind, "a transportation industry which enjoyed during the war a license under War Production Board Certificate No. 44 to fix rates and agree on services through rate conferences and bureaus resisted the termination of this license and sought to make it permanent by legislation."

Unions Urge Block Signals on 50 M. P. H. Lines

Issuance by the Interstate Commerce Commission of a general order requiring the railroads to install automatic block signal systems on all lines on which freight trains are authorized to operate at 50 m.p.h. or more and passenger trains at 60 m. p. h. or more is advocated in a brief filed by the Railway Labor Executives' Association in the No. 29543 proceeding. As noted in *Railway Age* of December 7, page 974, the railroads are opposed to a general order and have urged the commission to continue its past practice of proceeding in signaling matters through individual investigations and individual show-cause orders.

The R. L. E. A. brief further recommended that additional protection, in the

form of automatic train stop, train control or cab signal devices, be required on all locomotives operated at speeds of 70 m.p.h. or more in all classes of service. It said that the cost of installing such devices would be offset by a reduction in the number of accidents and the saving in operating expenses that "normally flows from the use of an automatic signal system."

With respect to proposals to amend the commission's definition of medium speed and to add to the commission regulations a definition of "low (restricted) speed," the brief suggested that "medium speed" be defined as "one-half authorized speed, but not exceeding 30 m.p.h."; and that "low speed" or "low (restricted) speed" be defined to mean "proceed prepared to stop short of train, obstruction or switch and look out for broken rail, but not to exceed 15 m.p.h."

Commodity Statistics for Water Carriers and Electric Lines

Following through from the recent revision of its commodity statistics for steam railroads, the Interstate Commerce Commission has similarly revised its requirements for the reporting of freight commodity statistics by water carriers and electric railways. The revisions become effective January 1, 1947, as does the new steam-railroad plan, noted in the *Railway Age* of October 12, page 614. The electric-railways order also prescribes revised requirements for the reporting of operating statistics.

Argument Jan. 9 on Accounting for Post Driving

The Interstate Commerce Commission has set January 9, 1947, as the date for oral argument in the No. 29140 proceeding which involves accounting for pressure-grouting and post-driving work to arrest water pockets and mud heaves in the roadbed.

As noted in the *Railway Age* of July 27, page 149, the proposed report on further hearing, by Examiners Howard Hosmer and Homer L. Kirby, has recommended that the railroads be permitted to charge the cost of this work to operating expenses.

Equipment and Supplies

LOCOMOTIVES

The INTERNATIONAL-GREAT NORTHERN has ordered one 2,000-hp. Diesel-electric passenger locomotive from the Electro-Motive Division of the General Motors Corporation.

The KANSAS CITY PUBLIC SERVICE COMPANY has ordered one 656-hp. electric freight locomotive from the General Electric Company.

The LAKE TERMINAL has ordered eight 1,000-hp Diesel-electric switching locomotives from the Electro-Motive division of the General Motors Corporation.

FREIGHT CARS

November Freight Car Deliveries Below October Figure

Shortages of steel and other materials continued to hold freight car production far below capacity during November, when deliveries to domestic railroads totaled 3,244, including 802 from railroad shops, compared with October deliveries of 3,828, which included 771 from company shops, the American Railway Car Institute has announced.

Orders for new cars in November were 6,705, including 2,025 ordered from railroad shops, compared with October orders for 3,407 new cars, including 10 from railroad shops, the institute said. Cars for domestic railroads on order and undelivered on December 1 totaled 69,294, including 21,396 ordered from railroad shops, compared with 65,700, including 20,173 from railroad shops, on November 1.

The MISSOURI PACIFIC has ordered 800 50-ton 40½-ft. box cars from the Pressed Steel Car Co. and 500 70-ton steel hopper cars and 50 70-ton covered hopper cars from the American Car & Foundry Co. In addition, 868 freight cars of various types and capacities have been ordered from the road's De Soto, Mo., shops, as well as 50 from the San Antonio, Texas, shops.

PASSENGER CARS

The BOARD OF TRANSPORTATION, New York, has ordered an additional 100 subway cars from the American Car & Foundry Co. An earlier order for 400 subway cars and 30 extra trucks placed with the same firm was reported in the *Railway Age* for October 12, page 618.

The CANADIAN NATIONAL has ordered 30 streamlined coaches from the Canadian Car & Foundry Co., Montreal, Que., with delivery expected the early part of next year. According to an announcement by the road, the coaches will feature "cycle modulation control," a device which will maintain the heat inside the cars within one degree of the desired temperature, although outside temperature may vary as much as 50 degrees in a few hours. The coaches will be longer and wider than those now in use, but will contain fewer seats in order to increase passenger comfort. A glass partition will divide each car into two sections—one seating 32 non-smokers and the other seating 28 smokers.

SIGNALING

The CHESAPEAKE & OHIO has placed an order with the Union Switch & Signal Co. covering the necessary signaling materials for the installation of centralized traffic control on the Lexington subdivision between Aden, Ky., and Olive Hill, 8 miles of single track. A 2½-ft. Style-C control machine will be located at Ashland, Ky., 33 miles from the nearest controlled location. In addition to the control machine the order includes the code equipment, Style R-2 color-light signals, Style M-22A dual-control electric switch movements, Style SL-21 electric switch locks, relays, rectifiers, transformers and housings. The field installation will be handled by railroad forces.

The CHICAGO, ROCK ISLAND & PACIFIC has placed an order with the Union Switch & Signal Co. for the required signal material to install centralized traffic control between Allerton, Iowa, and Eldon, 71 miles of single track. The territory will be controlled from Trenton, Mo., which is

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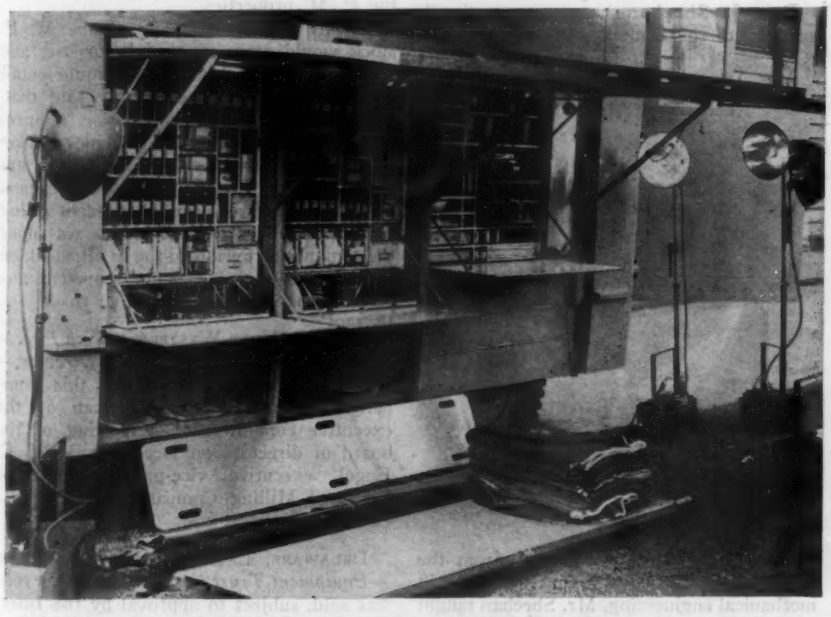


"Hospital on Wheels" for Australian Railroad

The Victorian Railways maintain a fully-equipped ambulance, built on a Ford 3-ton, 4-wheel drive chassis, for dispatch by road to the scene of any train "mishap." Staffed by eight men, it is furnished with complete emergency medical and surgical kits, first aid supplies, blankets, stretchers, portable flood lights and other "field hospital" equipment.

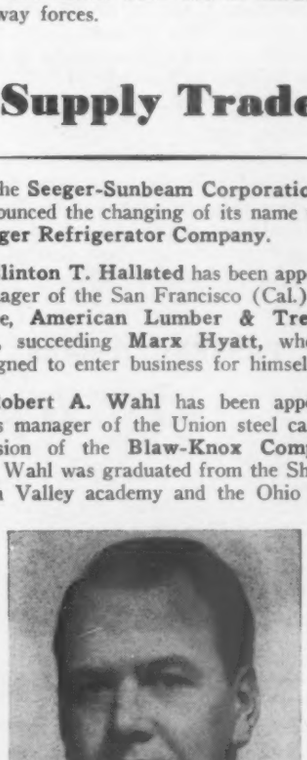
51 miles from the nearest controlled location. A 2-ft. 6-in. Style-C control machine for this territory will be added, and made an integral part of the existing machine at Trenton. The order also includes the required code equipment, Style H-2 high searchlight and dwarf signals, Style M-22B electric switch movements, coded track circuit material, relays, rectifiers and housings. The installation work will be handled by railway forces.

Supply Trade

The **Seeger-Sunbeam Corporation** has announced the changing of its name to the **Seeger Refrigerator Company.**

Clinton T. Hallsted has been appointed manager of the San Francisco (Cal.) sales office, **American Lumber & Treating Co.**, succeeding **Marx Hyatt**, who has resigned to enter business for himself.

Robert A. Wahl has been appointed sales manager of the Union steel castings division of the **Blaw-Knox Company.** Mr. Wahl was graduated from the Shenandoah Valley academy and the Ohio State



Robert A. Wahl

university, after which he spent five years with various industrial companies. He joined Blaw-Knox in 1937, and has served in a number of purchasing and sales capacities, prior to his recent appointment.

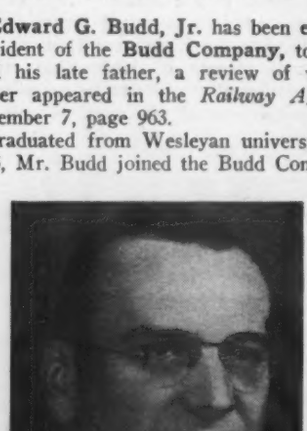
The **R. C. Larkin Company,** 3001 South Wabash avenue, Chicago, industrial power distributor for the **International Harvester Company** for the Chicago area, has received the railroad industry contract for the Chicago area, formerly assigned to the W. F. Hebard Company.

Edward A. Sipp has been appointed manager, railway division, of the **Reynolds Metals Company,** with headquarters at Chicago. Mr. Sipp was formerly contact executive of the Gustin Bacon Manufacturing Co., and for many years was associated with the Pyle-National Company.

C. W. Workman has been appointed manager of the Chicago district office of **Preco Incorporated.** Mr. Workman, with the Atchison, Topeka & Santa Fe since 1916, has specialized in the transportation of perishables and for the last five years was assistant manager of the Santa Fe's refrigerator department.

Edward G. Budd, Jr. has been elected president of the **Budd Company,** to succeed his late father, a review of whose career appeared in the *Railway Age* of December 7, page 963.

Graduated from Wesleyan university in 1923, Mr. Budd joined the Budd Company



Edward G. Budd, Jr.

in that year. He was elected vice-president in 1934 and a director in 1938. In 1943 he was elected executive vice-president, in which capacity he served until his recent election.

Robert D. Sowers has been appointed to the industrial sales division of the Sharon, Pa., plant of the **National Malleable & Steel Castings Co.** Mr. Sowers joined National Malleable in 1936. He served in the United States Navy during world war II and returned to the company in April of this year.

Dan J. Sheehan has been appointed manager of the Danville, Ill., plant of the

Dan J. Sheehan

Hyster Company. Graduated from the University of Michigan with a degree in mechanical engineering, Mr. Sheehan taught the subject for three years at Purdue university. For the last 14 years he has been superintendent of motive power for the Chicago & Eastern Illinois.

OBITUARY

James S. Watson, who retired in March of this year as a director of Link-Belt Company, Chicago, and who served as vice-president in charge of Indianapolis (Ind.) plants operations until 1943, died in the latter city on December 10. He was 72 years old, and had been associated with the company for more than 50 years.

Financial

BUFFALO CREEK. — *Equipment Trust Certificates.*—This road has requested bids by December 19 for the lowest interest rate at which the bidders will provide up to $221,700 for financing approximately 80 per cent of the cost of three 1,000-hp. Diesel-electric switching locomotives under a conditional sale agreement according to which the unpaid balance will be paid in quarterly installments over a ten-year period.

CHESAPEAKE & OHIO-PERE MARQUETTE.—*Merger.*—Objection to a provision in the proposed report of the Interstate Commerce Commission's Bureau of Finance—which recommended conditional approval of the merger of the P. M. into the C. & O.—that it be required to deposit its shares of Missouri Pacific stock with an independent voting trustee under a trust agreement subject to approval by the commission, was contained in a brief of exceptions filed with the I. C. C. this week by the Alleghany Corporation. The proposed report, noted in *Railway Age,* November 2, page 737, recommended that the condition to which Alleghany objects be imposed in connection with approval of the holding company to acquisition, through the C. & O., of control of the P. M. properties.

Declaring that trusteeing of the M. P. stock would serve no useful purpose, and that the report's requirement would entail unnecessary expense, Alleghany said that, in accordance with a commission requirement in another proceeding (Finance Docket No. 14692), its other M. P. holdings are now deposited with the Chase National Bank of New York as an independent voting trustee. It added that when this was done the commission exempted the M. P. stock on the grounds that it did not represent any voice in the management of that road.

CHICAGO GREAT WESTERN.—*New Executive Committee Chairman, New Director.*—H. W. Burtness, president of this company, was named also chairman of the executive committee at a meeting of the board of directors on December 3. W. C. Engel, executive vice-president of the Standard Milling Company, Chicago, was elected a director.

DELAWARE, LACKAWANNA & WESTERN. —*Equipment Trust Certificates.*—This road has sold, subject to approval by the Interstate Commerce Commission, $4,000,000 of Series E equipment trust certificates to Halsey, Stuart & Co., on a bid of 99.435 which specified a 2⅛ per cent interest rate.

(See *Railway Age* of November 30, page 940.)

GEORGIA, FLORIDA AND ALABAMA.—*Reorganization Plan.*—Examiner Ralph H. Jewell has recommended in a proposed report that the Interstate Commerce Commission approve for this road a plan of reorganization which, among other things, would provide for a conditional lease of the debtor's property for 21 years to the Seaboard Air Line. The plan would provide for a cash reserve to be set aside by the Seaboard out of the cash settlement receivable by the debtor from the Seaboard, the reserve to consist of all cash in the reorganization, including the expenses of the reorganization and unpaid expenses of the prior receivership proceeding, unpaid Federal income and excess profits taxes and a cash distribution upon reorganization of $525,000 to the holders of the debtor's mortgage bonds.

Under the plan recommended by the examiner, the new capitalization of the road would be approximately $2,275,000, consisting wholly of no-par common stock. The present capitalization of the debtor is $4,250,000, with 10,000 shares of non-par common stock stated at $100 per share, exclusive of $1,598,333 of unpaid simple interest and $706,125 of unpaid interest on overdue interest, on funded debt as of April 20. The effective date of the plan, according to the proposed report, would be its date of consummation.

Recommending further that the claims of the holders of unsecured claims against the debtor and of its preferred and common stockholders should be found to be without value and that such claimant should not participate in the reorganization, the report also recommended that all general claims and taxes entitled to priority over the mortgage of the debtor should be paid in cash upon reorganization or assumed by the reorganized company with the same relative priority which they now have.

The report also recommended that holders of the debtor's first mortgage and refunding bonds should receive for each 1,000 principal amount thereof and all unpaid interest thereon to the date of the consummation of the plan, $300 in cash and 13 shares of the new no-par common stock of the reorganized company, and that holders of the new stock should be entitled to cumulative voting of the election of directors.

MISSOURI-KANSAS-TEXAS. — *Promissory Notes.*—This road has informed the Interstate Commerce Commission that it has accepted, subject to commission approval, the bid of the Manufacturers & Traders Trust Co., Buffalo, N. Y., on $1,382,255 of promissory notes which the applicant plans to issue to evidence the indebtedness it will assume under conditional sales agreements, as noted in *Railway Age,* November 30, page 940. The Buffalo bank's bid offered an annual interest rate of 1.92 per cent.

MISSOURI PACIFIC.—*Purchase Fund Approved.*—Authorization to create a $4,000,000 purchase fund for the purpose of acquiring outstanding securities of this road was granted to Guy A. Thompson, trustee, by the United States district court at St. Louis, Mo., on December 3. Tenders good until December 31, 1946, have been invited from holders of the following group of bonds: Missouri Pacific 5¼ per cent secured serial gold bonds; Cairo & Thebes 4 per cent first mortgage bonds; Central Branch Union Pacific 4 per cent first mortgage bonds.

NORTHERN PACIFIC.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for $6,800,000 of 1¾ per cent equipment trust certificates, the proceeds of which will be applied toward the payment of about $8,632,579 for equipment which the applicant intends to purchase, as outlined in *Railway Age,* November 16, page 854. The certificates will mature in 10 equal annual installments, starting December 10, 1947. The report also approves a selling price of 98.718, the bid of Halsey, Stuart & Co., on which basis the average annual cost will be approximately 2.01 per cent.

PENNSYLVANIA.—*Trackage Rights.*—Division 4 of the Interstate Commerce Commission has authorized this road to acquire trackage rights over the Baltimore & Ohio between Indiana, Pa., and Cummings, approximately 8.6 miles; between Creekside, Pa., and J. M. Junction, approximately 9.5 miles, and between J. M. Junction and Coal Run, approximately 5 miles. (See *Railway Age* of August 10, page 248.)

ST. LOUIS-SAN FRANCISCO. — *Voting Trustees Named.*—Federal Judge George H. Moore, at St. Louis, Mo., this week approved three businessmen of that city as voting trustees of this road to control the voting power of all Frisco stock from January 1, 1947 to January 1, 1952. They are: Frank C. Rand, chairman of the board of directors, International Shoe Company; Hugh McKittrick Jones, partner in Robert McKittrick Jones & Company, cotton goods brokerage firm; and Richard J. Lockwood, president of the Title Insurance Corporation. Mr. Lockwood is also a member of the road's board of reorganization managers.

SOUTHERN.—*Equipment Trust Certificates.*—This road has sold, subject to approval by the Interstate Commerce Commission, $7,600,000 of Series MM equipment trust certificates to Blair & Co., of New York, on a bid of 99.04 which specified a 1¾ per cent interest rate. (See *Railway Age* of December 7, page 980.)

UNION PACIFIC.—*Equipment Trust Certificates.*—This road has requested bids by December 19 for the lowest rate at which the bidders will supply funds for the purchase of 1,500 steel-sheathed box cars to cost $6,916,200. The equipment will be sold to the road under a conditional sale agreement, according to which the unpaid balance is to be paid in 96 equal monthly installments.

Average Prices Stocks and Bonds

	Dec. 10	Last week	Last year
Average price of 20 representative railway stocks..	52.61	49.23	62.56
Average price of 20 representative railway bonds..	91.59	89.76	101.04

Dividends Declared

Allegheny & Western.—Guaranteed, $3.00, semi-annually, payable January 2 to holders of record December 20.

Canadian Pacific.—2% preferred, payable February 1 to holders of record December 31.

Dayton & Michigan.—8% preferred, $1, quarterly, payable January 7 to holders of record December 14.

Elmira & Williamsport.—7% preferred, $1.60, semi-annually, payable January 2 to holders of record December 20.

Kansas City Southern.—Preferred, $1.00, quarterly, payable January 15 to holders of record December 20.

United New Jersey & Canal.—$2.50, quarterly, payable January 10 to holders of record December 20.

Abandonments

PACIFIC ELECTRIC.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon approximately 1 mile of track in Glendale, Calif., subject to the usual employee-protection conditions.

TONOPAH & TIDEWATER.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its entire line, extending approximately 169.1 miles from Ludlow, Calif., to Beatty, Nev. Authority to abandon operation was previously granted by the commission, no traffic having moved over the line since 1940, and in 1942, the War Department requisitioned the rail and other steel for use in the war effort.

The line was built originally to serve borax deposits which were abandoned several years ago. "It is apparent from the record that the line has served the purpose for which it was built," the commission said, adding, "that reconstruction thereof and resumption of service would impose an undue and unnecessary burden upon the applicant and upon interstate commerce."

Construction

NEW YORK & LONG BRANCH.—This road, owned jointly by the Central of New Jersey and the Pennsylvania, has awarded a contract to the J. Rich Steers Construction Company, New York, for the construction of a single-track span over Matawan creek, Matawan, N. J., to replace a structure destroyed by fire on December 6. Work has already begun on the project on a two-shift 24-hour basis and the span is expected to be read for operation in two weeks.

PARKWAY INDUSTRIAL.—This road has applied to the Interstate Commerce Commission for authority to construct approximately 4½ miles of freight switching tracks within the city limits of Cincinnati, O. The proposed construction, estimated to cost between $700,000 and $1,200,000, would connect with the Baltimore & Ohio. The applicant, which listed its capital at $250,000, said it plans to issue stocks and bonds to finance the construction.

PENNSYLVANIA.—Division 4 of the Interstate Commerce Commission has authorized this road to construct certain trackage at Indiana, Pa., to cost $36,805, as a part of a plan whereby it will operate under trackage rights over the B. & O., as outlined in *Railway Age* of August 10, page 248.

Railway Officers

EXECUTIVE

F. H. Dierks, vice-president and general manager of the Texas, Oklahoma & Eastern, with headquarters at Kansas City, Mo., has been elected president of the road, with the same headquarters.

Fred M. Steele, traffic manager of the Fort Dodge, Des Moines & Southern, with headquarters at Boone, Iowa, has been elected a director of the road and a member of its executive committee. He succeeds **Carl A. Dixon,** vice-president and secretary, who died recently.

S. D. Sparkes, whose promotion to assistant to vice-president in charge of traffic of the Missouri-Kansas-Texas, with headquarters at Dallas, Tex., was reported in the *Railway Age* of November 16, was born on July 7, 1893, at Jacksonville, Fla. Mr. Sparkes entered railroad service with the Panhandle & Santa Fe (part of the Atchison, Topeka & Santa Fe) in 1909 as an office boy in the traffic department at

S. D. Sparkes

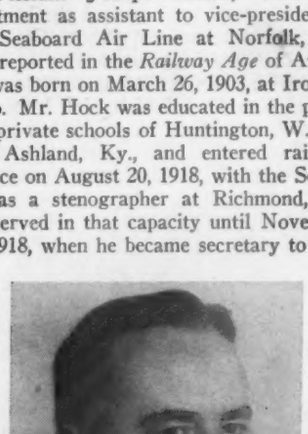
Amarillo, Tex., and in 1917 he joined the Katy as soliciting freight agent at Galveston, Tex. He was advanced to assistant general freight agent at St. Louis, Mo., in 1926 and the following year he was transferred to Dallas. In 1931 he was promoted to general freight agent and in 1935 was made freight traffic manager. He held the latter position at the time of his recent advancement.

Luther A. Thomas, whose promotion to assistant vice-president, special service and freight claims, of the Southern system at Washington, D. C., was reported in the *Railway Age* of December 7, was born at Madisonville, Tenn. Mr. Thomas attended the public schools and Bingham Military School at Asheville, N. C., receiving his higher education at the University of North Carolina. He entered the service of the Southern at Asheville on June 1, 1918. Advancing rapidly through the ranks, he was selected at the age of 35 to head the railway's investigation and police department as superintendent of police at Washington. In July, 1939, he was promoted to assistant to vice-president, the position he held at the time of his recent promotion. During World War II, Mr. Thomas was railway representative for the Military District of Washington, a member of the War Department Railroad

Luther A. Thomas

Security Commission, a consultant and special assistant to the director of railway transportation in the Office of Defense Transportation and, as such, chairman of the Military Security Committee of the O.D.T. In addition to these war-time assignments he was coordinator of civilian defense for the Southern at Washington. Mr. Thomas was chairman of the Protective section of the Association of American Railroads from June, 1941 until October, 1946.

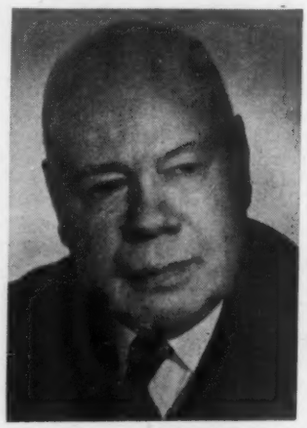
William Joseph Hock, whose appointment as assistant to vice-president of the Seaboard Air Line at Norfolk, Va., was reported in the *Railway Age* of August 17, was born on March 26, 1903, at Ironton, Ohio. Mr. Hock was educated in the public and private schools of Huntington, W. Va., and Ashland, Ky., and entered railroad service on August 20, 1918, with the Southern as a stenographer at Richmond, Va. He served in that capacity until November 16, 1918, when he became secretary to gen-



William Joseph Hock

eral freight agent at Richmond, holding that position until June 1, 1920, when he became rate clerk there. Mr. Hock went with the Seaboard Air Line on December 1, 1922, as chief clerk at Richmond, and became district freight agent there on September 16, 1936, being appointed express traffic manager at Norfolk on June 1, 1938. He served in the latter capacity until his appointment as assistant general freight agent at Tampa, Fla., on February 16, 1941. On June 16, 1942, Mr. Hock was appointed assistant to chief freight traffic officer at Norfolk, which position he held until his appointment as assistant to vice-president there on August 1.

H. J. Main, general superintendent of transportation of the Canadian Pacific, has been promoted to assistant to the vice-president, with headquarters as before at Montreal, Que., succeeding **C. E. Stockdill,** retired. Mr. Main was born at Kemptville, Ont., on August 16, 1885, and entered railroad service in 1902, as telegraph operator for the Canadian Pacific at Almonte, Ont. He subsequently served as station agent at Arnprior, Ont.; train dispatcher at Ottawa, Ont.; chief train dispatcher at Smith Falls, Ont.; assistant superintendent at Smiths Falls and Farnham, Que.; relieving superintendent and car service agent at Montreal, successively until 1922. Mr. Main served as superintendent (operations and maintenance) at Toronto, Ont.; Moose Jaw, Sask.;



H. J. Main

and Saskatoon, Sask., from 1922 until 1934, when he became general superintendent (operations and maintenance), serving in that capacity at Winnipeg, Man., and Moose Jaw, successively, until 1942. He was appointed general superintendent of transportation (system) at Montreal in 1942, which position he held until his recent promotion.

Mr. Stockdill was born on October 25, 1881, and entered railroad service in 1896 as telegraph messenger for the Canadian Pacific at London, Ont., serving in this capacity until 1899. From 1899 to 1915 Mr. Stockdill served successively as clerk in superintendent's office at London; stenographer and clerk in the general superintendent's office at North Bay, Ont.; clerk at Winnipeg, Man. chief clerk to general superintendent at Calgary, Alta.; general clerk to assistant general manager at Winnipeg and chief clerk to vice-president at Winnipeg. He served as assistant to vice-president at Winnipeg from 1915 to 1943, becoming assistant to vice-president (system) at Montreal on October 1, 1943, the position he held until his retirement.

Frederick E. Baukhauges III, executive assistant to vice-president in charge of finance of the Baltimore & Ohio, has been appointed general solicitor, with headquarters as before at Baltimore, Md. **L. James Huegel,** former member of the legal staff of the Pennsylvania at Philadelphia,

Frederick E. Baukhauges III

Pa., has been appointed assistant general attorney of the Baltimore & Ohio.

Mr. Baukhauges was born at Baltimore on February 6, 1910, and received his LL.B. degree from the University of Virginia in 1933. He entered railroad service in 1925 as office boy in the office of the auditor of construction of the Southern at Washington, D. C., serving as laborer—fencing force, Appalachian division of that road from 1926 to 1928. From 1933 to 1934 Mr. Baukhauges engaged in the private practice of law and served as associate trial justice, 13th Judicial Circuit of Virginia. He was attorney and counsel for the Reconstruction Finance Corporation at Washington from 1935 to 1940 and from 1941 to 1944 he was presonnel assistant to vice-president-operation of the Union Pacific at Omaha, Neb. Mr. Baukhauges became executive assistant to vice-president-finance of the Baltimore & Ohio in July, 1944, the position he held until his recent appointment.

FINANCIAL, LEGAL AND ACCOUNTING

H. O. Connell has been appointed auditor of freight revenue of the Chicago, South Shore & South Bend, with headquarters at Michigan City, Ind.

OPERATING

J. O'Dore has been appointed assistant division superintendent of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Lewistown, Mont.

R. A. Black, transportation engineer, Canadian National, with headquarters at Montreal, Que., has retired after 37 years of railroad service.

J. L. Bromley has been appointed superintendent of transportation, Eastern lines of the Canadian Pacific, with headquarters at Toronto, Ont., succeeding **R. E. Taylor,** who has been promoted to general superintendent of transportation, with headquarters at Montreal, Que., succeeding **H. J. Main,** whose promotion to assistant to vice-president at Montreal is noted elsewhere in these columns.

S. O. Rentschler, whose promotion to general manager of the Elgin, Joliet & Eastern, with headquarters at Chicago, was reported in the *Railway Age* of December 7, was born at Verdon, Neb., on October 12, 1904, and is a graduate of the University of Nebraska. He entered railway service as a special apprentice of the Missouri Pacific in September, 1923, subsequently serving as a machinist, division foreman, enginehouse foreman and general passenger shop foreman at various points on the road, including St. Joseph, Mo., Omaha, Neb., and Lincoln; Wichita, Kan., Hoisington and Ossawatomie, and Kansas City, Mo. After serving as general shop foreman at Sedalia, Mo., Mr. Rentschler was promoted in August, 1942, to shop superintendent, with the same headquarters. On October 1, 1943, he was advanced to mechanical superintendent of the Southern district,

S. O. Rentschler

with headquarters at St. Louis, and in November, 1944, he was promoted to assistant chief mechanical officer, resigning from that position on April 1, 1945, to become superintendent of motive power of the E. J. & E. He held the latter position at the time of his recent promotion.

C. A. Rowe has been appointed superintendent of tie and timber operations of the Algoma Central & Hudson Bay, with headquarters at Sault Ste. Marie, Ont.

Raul Bolan has been appointed acting car accountant of the Mexican, with headquarters at Mexico City, Mex., succeeding **Alfonso C. Merino,** who has resigned.

W. E. Harned, general inspector, dining car department of the Louisville & Nashville, has been promoted to assistant superintendent of dining cars, with headquarters at Louisville, Ky.

H. R. Conover, whose promotion to assistant manager of the Cincinnati Union Terminal Company, Cincinnati, Ohio, was reported in the *Railway Age* of November 23, was born on December 13, 1892, at Lawrenceville, Ill. Mr. Conover began his railroad career with the Cleveland, Cincinnati, Chicago & St. Louis (part of the New York Central System) in 1915 as a title searcher at Cincinnati, followed two years later by military service in World War I. He returned to the Big Four in 1920 as fieldman in land valuation, holding this position later with the Michigan Cen-

H. R. Conover

tral at Detroit, Mich., and with the Indiana Harbor Belt Line (also parts of the N.Y.C. System) at Chicago. In 1923 he became associated with the Michigan State Highway department, and the following year was city engineer at Lawrenceville. He joined the New York Central in 1925 as terminal land appraiser at New York, and from 1927 to 1941 he served as assistant real estate agent for the Cincinnati Union Terminal Company. Mr. Conover reentered military service in 1942, serving as a lieutenant colonel in the Air corps. He returned to the Cincinnati Union Terminal Company in 1946 as real estate, tax and safety agent, holding this position until his recent promotion. Coincident with his promotion to assistant manager, his former positions and the position of maintenance engineer were abolished.

M. Dube has been appointed assistant superintendent of the Laurentian division of the Canadian Pacific, with headquarters at Montreal, Que., succeeding **A. W. Harris,** transferred.

J. T. Theby, trainmaster of the Chicago & Eastern Illinois, with headquarters at Danville, Ill., has been promoted to superintendent of terminals at Chicago, succeeding **F. J. Freese,** who has retired following 55 years of service.

P. A. Gaudet, trainmaster, Compbellton division of the Canadian National, with headquarters at Newcastle, N. B., has been promoted to assistant superintendent of the Campbellton division, with headquarters at Campbellton, N. B.

S. A. Brownlie, assistant superintendent of the Louisville division, Louisville & Nashville, has been transferred to Knoxville, Tenn. **E. R. Harris** has been appointed assistant superintendent of terminals at Louisville, Ky.

T. W. English, assistant to assistant general manager of the New York Central, with headquarters at Indianapolis, Ind.,

has been appointed division superintendent there, succeeding **J. A. Nichols,** whose death was reported in the *Railway Age* of November 9.

Michael H. Strollo, whose appointment as superintendent of the Southern division of the Central of New Jersey and the New York & Long Branch at Long Branch, N. J., was reported in the *Railway Age* of November 9, has been a railroader for 45 years. Mr. Strollo began his career with the New York & Long Branch in 1901 as a telegrapher and subsequently served in various capacities. He joined the Central of New Jersey in 1930 as assistant trainmaster at Long Branch, in which capacity he served until July 1, 1945, when he was appointed acting superintendent of the Southern division.

Albert L. Hunt, whose promotion to division superintendent of the Pennsylvania, with headquarters at Logansport, Ind., was reported in the *Railway Age* of November 23, was born at Stockton, N. J., and was educated at the Episcopal academy, Philadelphia, Pa., and at Valparaiso university. He entered the service of the Pennsylvania in 1917 as a stores attendant at Philadelphia, and from 1924 to 1927 was transportation apprentice at Fort Wayne, Ind., and Chicago. In the latter year he became assistant yardmaster at Williamsport, Pa., serving also at Renovo, Pa., Harrisburg and Philadelphia. In 1934 Mr. Hunt was promoted to assistant trainmaster, holding that position at several points on the road. He was advanced to trainmaster at Toledo, Ohio, in 1940, and in 1942 he entered military service. Returning to the road in 1945, he was appointed trainmaster of the Columbus division, which position he held at the time of his current promotion.

Albert L. Hunt

Manuel R. Palacios has been appointed general manager of the National Railways of Mexico and of the Mexican, with headquarters at Mexico City, Mex. **Ernesto L. Amador** has been appointed assistant general manager at Mexico City, succeeding **M. S. Mayagoitia.**

TRAFFIC

J. J. Hubbard, district freight agent of the Southern system at Boston, Mass., has been promoted to division freight and passenger agent in charge of a newly-established freight and passenger office at Danville, Va. **John A. Ohlund,** commercial agent at Boston, has been promoted to district freight agent, with the same headquarters, succeeding Mr. Hubbard.

George B. Hanson, whose promotion to passenger traffic manager of the Southern Pacific, with headquarters at Los Angeles, Cal., was reported in the *Railway Age* of November 30, was born on March 21, 1892, at San Francisco, Cal. Mr. Hanson began his railroad career in 1907 with the S. P. as a junior clerk in the road's general passenger office at San Francisco. He subsequently was stenographer to general passenger agent; secretary and chief clerk to passenger traffic manager; chief of solicitation, general passenger office; and city passenger agent. He was advanced to district passenger agent at San Jose, Cal., in 1926, and in 1932 he returned to San Francisco in that position. In 1939 Mr. Hanson was promoted to general passenger agent at Los Angeles, which position he held at the time of his new appointment.

George B. Hanson

Nels Kinell, whose promotion to assistant passenger traffic manager of the Southern Pacific, with headquarters at Los Angeles, Cal., was reported in the *Railway Age* of November 30, was born on October 9, 1881, in Sweden. Mr. Kinell began his railroad career with the S. P. in 1901, serving as stenographer and clerk, and was advanced to secretary to the passenger traffic manager at San Francisco, Cal., in 1907. In 1920 he was advanced to assistant general passenger agent, and in 1924 he was promoted to general passenger agent at El Paso, Tex. He returned to San Francisco in that position the following year. Prior to his recent promotion, Mr. Kinell had been assistant general passenger agent at Los Angeles since 1933.

Nels Kinell

E. B. Burnside has been appointed general agent of the Colorado & Southern, with headquarters at Denver, Colo.

O. A. Williams, commercial agent of the Seaboard Air Line at Chicago, has been promoted to general agent there.

O. M. Payne, commercial agent of the Tennessee Central, with headquarters at Cincinnati, Ohio, has been appointed general agent there.

J. B. Reynolds, whose promotion to general passenger agent of the Missouri Pacific, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of November 2, began his service with the M. P. in 1924 as a stenographer-clerk at Little Rock, Ark. He advanced to rate clerk, and later became chief clerk there prior to his transfer, in 1934, to Denver, Colo., as traffic representative. In 1936 Mr. Reynolds was promoted to district passenger agent at Los Angeles, Cal. He returned to Little Rock in 1943 as assistant general passenger agent, which position he held at the time of his new appointment.

J. B. Reynolds

W. L. Daly has been appointed district passenger agent of the Southern, with headquarters at Detroit, Mich.

L. C. Smith, general freight agent of the Duluth, South Shore & Atlantic, with headquarters at Marquette, Mich., has resigned, and the position of general freight agent has been abolished. **H. J. Beaudry** has been appointed assistant general freight agent at Marquette. Mr. Smith has been appointed general freight and passenger agent of the Lake Superior & Ishpeming, with headquarters at Marquette, Mich., succeeding **H. A. St. John,** who has retired after more than 50 years of service.

News Department continued on next left-hand page

Motive Power Titans

...FOR WESTERN OHIO

THE tonnage that must be moved on the Detroit, Toledo and Ironton lines demands motive power capable of maintaining fast schedules with tremendous loads.

For this service the D. T. & I. has steadily increased its fleet of Lima-built steam locomotives, so that today eighteen of these modern Titans are speeding the heavy traffic on which so many of Western Ohio industries depend.

LIMA LOCOMOTIVE WORKS INCORPORATED, LIMA, OHIO

E. C. Potter, assistant general freight agent of the Chicago & Illinois Midland, with headquarters at Chicago, has been transferred to Springfield, Ill.

ENGINEERING & SIGNALING

H. S. Purdom, whose appointment as district engineer of the Chesapeake & Ohio at Huntington, W. Va., was reported in the *Railway Age* of November 23, was born on October 19, 1898, at Talesboro, Ky., and attended the University of Kentucky. He entered railroad service with the Chesapeake & Ohio in May, 1917, as rodman on construction, becoming instrumentman in November, 1917. Mr. Purdom was construction foreman for the Dravo Contracting Company from August 20, 1920, to December 23, 1923, returning to the Chesapeake & Ohio on the latter date

H. S. Purdom

as masonry inspector in the engineering department. He was appointed resident engineer on July 26, 1928, instrumentman on April 14, 1932, assistant engineer on June 1, 1936, and assistant cost engineer on January 16, 1937. Mr. Purdom became yardmaster in the transportation department on June 6, 1938, and was appointed assistant trainmaster on June 24, 1940, becoming trainmaster on July 1, 1942. On February 22, 1944, he was appointed inspector in the engineering department, becoming resident engineer on July 24, 1944, which position he held until his recent appointment as district engineer.

E. Nicholson, assistant engineer of the Canadian National, with headquarters at Toronto, Ont., has retired.

H. R. Peterson, principal assistant engineer of the Northern Pacific, at St. Paul, Minn., has been promoted to assistant chief engineer, with the same headquarters. **G. L. Smith,** engineer of track, has been promoted to system engineer of track, with headquarters as before at St. Paul. **J. E. Hoving,** office engineer at St. Paul, has been promoted to principal assistant engineer, with the same headquarters, succeeding Mr. Peterson. **D. H. Shoemaker,** assistant engineer, with headquarters at New Salem, N. D., who has just completed supervision of a line change, succeeds Mr. Hoving as office engineer at St. Paul.

C. F. Thomas has been appointed secretary and chief engineer of the Spokane, Portland & Seattle, with headquarters at Portland, Ore., succeeding **A. J. Witchel,** who has retired following 41 years of service.

MECHANICAL

G. E. Bennett, master mechanic of the Chicago & Eastern Illinois, with headquarters at Danville, Ill., has been promoted to superintendent of motive power, with the same headquarters, succeeding **D. J. Sheehan,** who has resigned.

George A. Budge, general master mechanic of the Chicago, St. Paul, Minneapolis & Omaha (part of the Chicago & North Western System), with headquarters at St. Paul, Minn., has retired, and the positions of general master mechanic and assistant master mechanic have been abolished. **H. W. Proctor** and F. Anderson have been appointed master mechanics at St. Paul and Sioux City, Iowa, respectively.

Clare I. Clugh, whose promotion to assistant chief of motive power-car of the Pennsylvania was reported in the *Railway Age* of November 23, was born at Altoona, Pa., and was educated at Valparaiso and Purdue universities. He entered the service of the Pennsylvania as a machinist apprentice at Altoona in June, 1918, and was advanced through various positions at Altoona until 1929, when he was appointed motive power inspector at Harrisburg, Pa. Thereafter, Mr. Clugh served successively as gang foreman at Harrisburg and engine-

Clare I. Clugh

house foreman at Delmar, Del., and in May, 1937, he was advanced to assistant master mechanic of the Lake division at Cleveland. He became resident inspector at Pittsburgh, Pa., in July, 1938; chief material inspector at Altoona in February, 1941, and master mechanic of the Philadelphia Terminal division in February, 1943. He went to Pitcairn, Pa., as master mechanic on May 1, 1945, and was promoted to superintendent at Logansport on April 16, 1946, which position he held at the time of his recent promotion.

SPECIAL

Paul Shelmerdine has been appointed labor relations officer of the Alaska Railroad.

Delbert L. Wood has been appointed chief special agent of the Illinois Central, with headquarters at Chicago, succeeding **W. D. Bee,** who has been relieved at his own request.

Cyril C. Thompson, former vice-president of United Air Lines, has been appointed special representative, air transport, of the Atchison, Topeka & Santa Fe, with headquarters at Chicago.

Frank G. Love, superintendent of property protection of the New York Central system, has been appointed manager of property protection and safety, with headquarters as before at New York, taking over, in addition to his previous duties, those of the late **J. M. Greenwood,** whose death on November 20 was reported in the *Railway Age* of November 30. Mr. Love

Frank G. Love

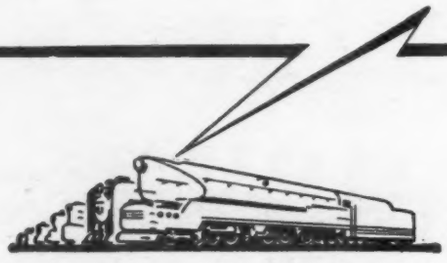
has been with the New York Central since 1913, when he started as an assistant timekeeper at Rochester, N. Y., subsequently becoming chief timekeeper there. He was then appointed claim agent at New York, later returning to Rochester as claim secretary of that division. In 1925 Mr. Love was appointed secretary, Lines East, general loss and damage prevention committee at Syracuse, N. Y., and the following year he was appointed assistant to superintendent of property protection of the New York Central and Ohio Central lines at New York. Mr. Love became superintendent of property protection in 1936, and his jurisdiction was extended over the entire system in 1938. He is chairman of the L. C. L. rules committee, loss and damage prevention, Freight Claim division, Association of American Railroads and also chairman of the freight loss and damage prevention committee of the Eastern Claim Conference.

A. F. Winkel, superintendent of safety —rules examiner, Missouri-Kansas-Texas, with headquarters at Dallas, Tex., has been appointed director of personnel, with the same headquarters. Mr. Winkel is succeeded by **C. A. Birge,** assistant superintendent of safety, who in turn is succeeded by **Paul O. Ellis,** assistant superintendent of the road's eastern division, at Franklin, Mo.

Table of Revenues and Expenses appears on next left-hand page

Measure first cost of new locomotives

IN TERMS OF HORSEPOWER



THE day is past when weight and size alone measured a locomotive's ability to perform. Today it is horsepower — horsepower at operating speeds, whether freight or passenger.

The maximum horsepower will be obtained from a steam locomotive of any given design only when that locomotive is equipped with the Franklin System of Steam Distribution. Without increasing size or fuel consumption, this system will increase power by 19 to 30 per cent at operating speed — and is the only means by which this increase can be obtained. Cost, measured in horsepower, will be substantially lowered.

Application of the Franklin System of Steam Distribution, using poppet valves, is practical — to either new or existing locomotives — for either freight or passenger service.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

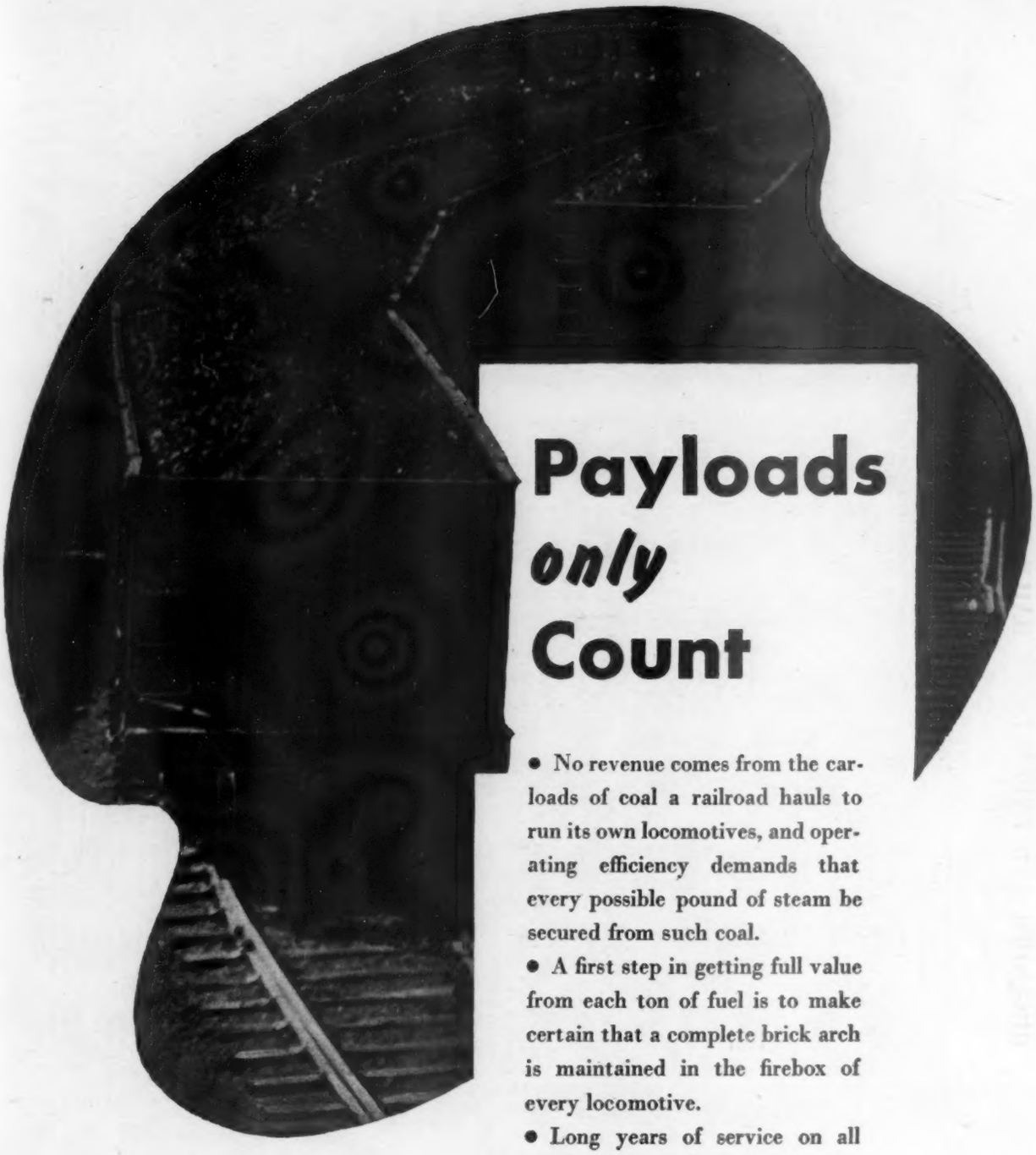
REVENUES AND EXPENSES OF RAILWAYS

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1946

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income 1946	1945
Akron, Canton & Youngstown	Oct.	171	$413,050	$105	$433,767	$68,890	$41,593	$22,885	$129,405	$283,068	65.3	$150,699	$54,453	$74,123	$14,481
	10 mos.	171	3,269,559	1,177	3,450,477	620,791	418,367	233,678	1,212,122	2,685,090	77.8	765,387	265,630	317,675	360,078
Alton	Oct.	959	1,799,818	441,078	2,559,856	480,524	316,469	71,534	1,021,818	2,032,982	79.4	526,874	163,982	161,013	170,898
	10 mos.	959	14,705,690	6,323,729	24,114,764	5,303,909	4,311,106	792,585	10,394,914	22,527,916	93.4	1,586,848	1,750,987	—1,879,054	3,254,036
Atchison, Topeka & Santa Fe System	Oct.	13,084	27,150,213	4,919,799	35,313,241	5,328,717	6,785,748	756,413	12,855,047	27,286,639	77.3	8,026,602	4,350,984	3,922,245	3,490,338
	10 mos.	13,085	246,439,816	65,933,363	340,733,808	51,290,398	66,197,991	7,373,627	123,012,085	258,604,346	75.9	82,129,462	43,906,230	38,338,534	32,112,474
Atlanta & West Point	Oct.	93	247,252	61,875	348,558	41,730	63,709	11,652	184,670	322,789	92.6	25,769	—5,239	9,142	25,708
	10 mos.	93	2,122,129	867,508	3,341,142	428,671	583,496	122,196	1,686,394	3,026,447	90.6	314,695	—36,118	141,797	251,609
Western of Alabama	Oct.	133	219,436	54,055	306,264	53,508	74,380	11,341	146,959	304,605	99.5	1,659	—16,100	19,943	36,925
	10 mos.	133	2,045,641	866,951	3,192,093	489,792	658,782	118,098	1,406,583	2,860,215	89.6	331,878	85,096	264,759	298,999
Atlantic Coast Line	Oct.	5,571	7,136,510	2,028,316	9,934,289	2,237,970	1,742,973	241,453	4,219,935	8,884,714	89.4	1,049,575	—250,000	1,266,210	498,644
	10 mos.	5,570	72,786,089	23,502,381	103,269,824	25,620,638	17,944,811	2,498,939	44,230,198	95,006,828	92.0	8,262,996	4,650,000	1,016,789	6,311,376
Charleston & Western Carolina	Oct.	343	289,797	15,377	315,919	54,770	66,755	11,239	136,043	277,440	87.8	38,479	15,000	21,062	24,822
	10 mos.	343	2,922,442	95,856	3,103,095	726,850	682,813	122,783	1,354,510	2,968,498	95.7	134,597	200,000	—91,183	295,852
Baltimore & Ohio	Oct.	6,193	24,484,617	2,502,598	28,498,038	3,996,023	6,636,729	665,190	11,899,260	24,417,788	85.7	4,080,250	1,678,599	2,044,586	2,386,089
	10 mos.	6,144	207,587,960	31,111,498	252,786,990	37,550,133	60,750,536	6,196,170	111,655,153	228,507,882	90.4	24,279,108	16,233,220	4,197,693	35,540,297
Staten Island Rapid Transit	Oct.	29	181,957	129,368	326,222	42,544	39,823	1,544	163,670	271,933	83.4	54,289	38,348	—7,429	—8,742
	10 mos.	29	1,637,875	1,178,514	2,934,041	490,631	365,932	15,264	1,557,513	2,666,158	90.9	267,883	365,621	—300,844	719,676
Bangor & Aroostook	Oct.	602	614,036	64,420	711,577	166,807	200,823	8,186	237,596	653,862	91.9	57,715	61,576	28,101	121,024
	10 mos.	602	7,614,721	578,307	8,449,090	2,199,840	2,035,525	74,263	2,764,205	7,459,030	88.3	990,060	642,267	450,233	1,007,332
Bessemer & Lake Erie	Oct.	214	2,032,440	1,434	2,048,209	133,724	454,520	16,044	434,983	1,086,605	53.1	961,604	485,558	728,565	309,591
	10 mos.	214	13,187,450	17,988	13,354,992	1,424,810	4,144,499	155,230	3,495,182	9,678,662	72.5	3,676,330	2,354,647	3,703,661	3,159,669
Boston & Maine	Oct.	1,762	5,160,848	1,242,995	6,993,321	1,091,228	1,147,271	88,377	2,910,215	5,521,252	79.0	1,472,069	420,143	755,907	664,665
	10 mos.	1,763	44,116,322	14,267,084	63,906,188	10,766,674	10,707,236	975,011	28,299,995	53,523,909	83.8	10,382,279	4,662,525	2,883,040	6,647,554
Burlington-Rock Island	Oct.	228	105,867	55,142	181,636	54,749	29,037	4,085	119,310	224,762	123.7	—43,126	7,937	—90,880	6,963
	10 mos.	228	1,809,737	680,361	2,688,267	447,381	322,315	40,251	1,134,510	2,118,217	78.8	570,050	96,596	36,043	430,503
Cambria & Indiana	Oct.	35	153,946	.....	154,031	12,320	51,193	664	22,527	94,973	61.66	59,058	75,173	93,868	44,160
	10 mos.	35	1,164,838	.....	1,165,507	126,149	483,286	6,658	188,104	879,512	75.46	285,995	509,065	589,305	488,978
Canadian Pacific Lines in Maine	Oct.	234	216,260	44,745	286,186	93,588	41,742	10,192	128,175	286,502	100.1	—316	22,159	—67,140	128,361
	10 mos.	234	3,141,314	634,602	4,085,665	858,011	632,907	88,071	1,654,864	3,353,041	82.1	732,624	223,543	—155,394	1,050,988
Canadian Pacific Lines in Vermont	Oct.	90	117,665	25,814	166,259	50,527	38,650	3,676	120,683	220,544	132.7	—54,285	11,337	—106,314	—99,546
	10 mos.	90	1,021,385	202,025	1,419,327	425,017	315,084	31,891	1,212,540	2,041,533	143.8	—622,206	110,552	—1,130,610	—1,017,931
Central of Georgia	Oct.	1,815	2,201,745	292,870	2,795,569	434,771	455,691	97,410	1,347,682	2,486,908	89.0	308,661	—83,621	430,004	481,738
	10 mos.	1,815	19,987,455	3,992,653	26,454,608	4,389,989	4,594,441	933,082	13,162,316	24,632,922	93.1	1,821,686	1,150,161	878,417	4,273,083
Central of New Jersey	Oct.	419	2,422,658	488,007	3,154,154	408,203	538,239	45,293	1,588,146	2,744,552	87.0	409,602	403,060	—263,060	298,286
	10 mos.	580	28,613,194	5,517,681	36,404,614	4,685,950	7,051,500	598,982	18,598,185	32,721,874	89.9	3,682,740	3,980,135	—2,003,885	4,821,662
Central R. R. Co. of Pennsylvania	Oct.	230	1,443,306	20,358	1,485,532	140,256	266,498	19,968	470,259	937,293	63.1	548,239	44,336	670,078	27,939
	10 mos.	69	3,804,910	58,978	3,912,466	406,301	793,857	52,276	1,305,697	2,663,617	68.1	1,248,849	144,266	1,875,267	262,823
Central Vermont	Oct.	422	545,190	86,000	692,811	124,511	123,998	11,070	386,211	683,718	98.7	59,093	44,931	—89,139	—42,968
	10 mos.	422	5,269,530	887,000	6,687,928	1,130,634	1,156,127	109,052	3,567,682	6,301,868	94.2	386,060	442,416	—585,601	34,456
Chesapeake & Ohio	Oct.	3,106	17,920,769	770,631	19,454,251	2,487,975	3,174,585	300,374	6,421,929	13,004,538	66.8	6,449,713	2,688,732	4,161,978	—9,613,105
	10 mos.	3,093	144,886,839	11,998,268	163,147,979	22,076,542	29,562,769	3,038,870	54,727,853	115,686,696	70.9	47,461,283	22,986,505	28,651,218	14,117,016
Chicago & Eastern Illinois	Oct.	910	1,817,212	324,201	2,355,911	367,033	475,030	80,705	1,004,751	2,041,054	86.6	314,857	99,000	112,084	179,248
	10 mos.	910	14,692,866	3,851,721	20,500,302	3,393,021	4,477,803	779,438	9,438,728	19,241,150	93.9	1,259,152	1,325,000	—1,299,350	2,301,327
Chicago & Illinois Midland	Oct.	131	667,485	924	707,059	93,202	146,118	22,652	186,321	476,450	67.4	230,609	99,284	125,746	73,981
	10 mos.	131	4,849,441	9,183	5,121,123	580,399	1,155,909	243,868	1,617,921	3,882,633	75.8	1,238,490	579,878	640,454	777,099
Chicago & North Western	Oct.	8,065	11,381,414	2,450,643	15,482,411	2,110,831	2,412,027	272,158	6,545,663	12,051,381	77.8	3,431,030	975,573	2,184,765	842,305
	10 mos.	8,065	90,484,138	28,822,826	133,895,940	21,140,644	25,432,511	2,623,702	58,868,401	114,411,483	85.4	19,484,457	8,641,288	7,887,870	17,993,654
Chicago, Burlington & Quincy	Oct.	8,868	14,185,974	1,985,088	17,788,434	2,780,414	2,324,971	355,102	5,965,373	12,045,786	67.7	5,742,648	2,600,578	2,833,926	1,942,587
	10 mos.	8,865	123,447,649	24,516,673	164,007,723	26,443,345	22,566,866	3,378,560	56,722,108	115,410,971	70.4	48,596,752	21,866,412	23,331,205	26,082,796
Chicago Great Western	Oct.	1,500	2,163,611	120,427	2,531,427	261,253	348,854	76,375	1,142,829	1,917,902	75.6	613,525	*3,649	427,531	170,682
	10 mos.	1,500	18,262,688	1,724,961	22,113,373	3,836,645	3,370,854	724,766	10,615,472	19,357,667	87.5	2,755,706	716,923	206,965	2,162,169
Chicago, Indianapolis & Louisville	Oct.	541	1,111,002	63,786	1,243,211	191,476	208,760	43,576	473,947	979,253	78.8	263,958	69,975	72,734	75,399
	10 mos.	541	8,243,738	471,008	9,221,250	1,482,506	1,832,464	383,853	4,000,654	8,243,559	89.4	977,691	629,474	—429,507	1,587,252

* Credit.

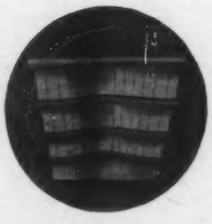
Table continued on the next left-hand page



Payloads *only* Count

- No revenue comes from the carloads of coal a railroad hauls to run its own locomotives, and operating efficiency demands that every possible pound of steam be secured from such coal.
- A first step in getting full value from each ton of fuel is to make certain that a complete brick arch is maintained in the firebox of every locomotive.
- Long years of service on all types of locomotives have demonstrated the power-increasing and fuel-saving advantages of Security Sectional Arches.

HARBISON-WALKER REFRACTORIES CO.
Refractories Specialists



AMERICAN ARCH CO. INC.
60 East 42nd Street, New York 17, N. Y.
Locomotive Combustion Specialists

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1946—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income 1946	Net railway operating income 1945
Chicago, Milwaukee, St. Paul & Pacific	Oct.	10,733	$15,792,078	$2,087,796	$19,764,326	$2,816,139	$2,693,515	$324,422	$7,893,591	$14,604,493	73.9	$5,159,833	$1,579,000	$2,998,546	$2,246,635
	10 mos.	10,733	124,292,085	24,539,840	166,041,311	28,790,733	30,279,187	3,344,474	73,615,052	144,438,072	87.0	21,603,239	7,723,000	9,627,947	23,749,869
Chicago, Rock Island & Pacific	Oct.	7,651	10,143,805	2,134,209	13,402,617	1,963,741	2,266,151	385,124	5,257,790	10,521,756	78.5	2,880,861	863,234	1,531,657	2,334,808
	10 mos.	7,652	96,343,060	25,553,964	132,533,327	18,950,027	21,883,570	3,910,234	50,998,098	102,395,319	77.3	30,138,008	9,928,399	13,689,421	23,011,921
Chicago, St. Paul, Minn. & Omaha	Oct.	1,616	2,037,179	278,771	2,544,058	332,223	354,517	49,474	1,243,233	2,081,465	81.8	462,593	—136,519	442,430	269,047
	10 mos.	1,616	17,230,331	2,949,453	22,393,959	3,489,799	3,701,752	478,630	11,358,769	20,010,240	89.4	2,383,719	1,305,769	—187,737	3,192,449
Clinchfield	Oct.	302	1,272,609	6,854	1,293,580	110,583	215,915	25,696	326,679	702,156	54.3	591,424	124,098	570,052	256,654
	10 mos.	302	10,802,656	84,229	10,996,814	1,068,135	1,857,540	261,217	3,065,416	6,494,109	59.1	4,502,705	1,333,929	3,681,678	4,301,218
Colorado & Southern	Oct.	748	827,360	154,900	1,084,058	157,141	176,529	21,529	468,822	882,415	81.4	201,643	115,977	40,086	234,985
	10 mos.	748	6,517,520	1,687,567	9,130,213	1,650,230	1,645,411	209,334	3,951,502	7,956,862	87.2	1,173,351	751,834	228,477	2,045,763
Ft. Worth & Denver City	Oct.	902	803,418	170,893	1,118,504	183,313	165,004	28,032	394,202	840,069	75.1	278,435	51,676	171,051	194,596
	10 mos.	902	6,717,848	2,283,332	9,991,749	2,092,069	1,632,037	315,374	3,682,652	8,370,768	83.8	1,620,981	554,879	731,021	1,950,135
Colorado & Wyoming	Oct.	42	94,462	.....	143,360	8,888	17,934	741	58,578	92,321	64.3	51,039	29,561	21,715	16,549
	10 mos.	42	686,795	.....	1,111,258	91,048	149,072	7,845	454,282	761,638	68.5	349,620	127,457	211,541	193,660
Columbus & Greenville	Oct.	168	130,762	3,990	146,426	39,987	24,954	3,877	64,672	146,859	100.3	—433	10,130	—12,238	23,793
	10 mos.	168	1,258,873	55,506	1,403,177	300,335	215,241	48,222	535,517	1,244,885	88.7	158,292	129,140	23,571	48,569
Delaware & Hudson	Oct.	846	4,174,872	237,942	4,529,403	566,320	938,409	59,359	1,745,240	3,446,081	76.1	1,083,322	249,532	821,657	—1,472,603
	10 mos.	846	33,869,387	1,808,381	36,665,585	5,420,472	8,253,399	563,623	15,379,137	30,997,951	84.5	5,667,634	2,313,802	3,444,296	2,271,330
Delaware, Lackawanna & Western	Oct.	973	5,204,187	805,481	6,650,377	814,999	1,145,184	126,886	2,911,999	5,203,995	78.3	1,446,382	527,081	836,550	256,112
	10 mos.	973	43,052,757	8,703,915	57,023,573	7,481,930	10,013,113	1,249,270	28,053,795	48,849,100	85.7	8,174,473	4,209,422	3,416,819	3,979,829
Denver & Rio Grande Western	Oct.	2,386	4,539,666	394,500	5,172,801	541,689	1,007,814	116,834	1,908,398	3,784,633	73.2	1,388,168	335,094	900,319	1,012,782
	10 mos.	2,386	33,929,078	6,793,872	42,962,184	5,693,229	9,894,714	1,173,392	17,195,751	36,125,177	84.1	6,837,007	3,159,701	3,391,260	—1,152,459
Denver & Salt Lake	Oct.	232	364,177	6,183	387,308	48,088	63,002	3,985	134,938	263,517	68.0	123,791	32,692	131,097	154,363
	10 mos.	232	2,697,295	73,796	2,893,355	561,407	570,289	39,099	1,083,772	2,387,637	82.5	505,718	324,443	618,437	820,477
Detroit & Mackinac	Oct.	230	141,061	2,831	153,201	28,524	18,634	854	42,141	95,494	62.3	57,707	5,300	37,650	6,587
	10 mos.	230	1,025,013	35,634	1,128,370	220,691	148,364	7,744	387,034	816,362	72.3	312,008	49,750	172,308	35,911
Detroit & Toledo Shore Line	Oct.	50	417,518	.....	420,242	58,731	41,852	10,777	123,898	245,014	58.3	175,228	51,220	55,799	5,702
	10 mos.	50	3,476,832	.....	3,496,343	400,039	316,722	106,640	1,176,513	2,093,971	59.9	1,402,372	419,171	376,262	444,348
Detroit, Toledo & Ironton	Oct.	464	960,948	992	1,000,777	120,568	153,975	18,990	263,657	589,352	58.9	411,425	126,591	255,106	15,918
	10 mos.	464	7,771,245	11,386	8,163,259	1,058,279	1,543,022	176,118	2,451,352	5,513,573	67.5	2,649,686	816,915	1,474,267	1,278,865
Duluth, Missabe & Iron Range	Oct.	547	4,106,083	4,761	4,806,211	398,450	422,769	5,854	1,068,222	1,945,237	40.5	2,860,974	892,571	1,982,524	1,779,472
	10 mos.	546	25,639,392	42,781	29,895,995	3,955,873	3,841,733	60,203	7,396,442	15,740,326	52.7	14,155,669	6,016,148	8,186,188	11,032,664
Duluth, Winnipeg & Pacific	Oct.	175	258,000	1,000	266,200	58,349	37,388	2,992	116,967	220,736	82.9	45,464	22,013	—9,707	1,276
	10 mos.	175	2,113,000	19,500	2,184,000	559,793	352,618	28,307	1,012,696	2,000,305	91.6	183,695	184,626	—272,987	9,014
Elgin, Joliet & Eastern	Oct.	391	2,253,154	271	2,744,784	174,115	418,325	21,586	1,123,373	1,820,110	66.3	924,674	414,386	359,071	128,159
	10 mos.	391	17,689,832	483	21,555,989	2,399,395	4,200,410	203,233	9,849,603	17,432,188	80.9	4,123,801	2,121,694	893,974	2,380,203
Erie	Oct.	2,242	11,415,954	578,024	12,855,985	1,227,842	2,237,887	262,674	5,577,066	9,861,910	76.7	2,994,075	210,784	2,129,461	942,475
	10 mos.	2,242	90,719,440	7,810,429	105,383,215	11,803,309	20,562,535	2,541,319	50,948,030	91,400,766	86.7	13,982,449	4,549,852	3,569,922	12,810,348
Florida East Coast	Oct.	682	1,203,671	688,486	2,063,479	328,412	388,061	53,705	724,306	1,632,907	79.1	430,572	139,626	210,707	286,278
	10 mos.	682	13,177,675	6,631,633	21,570,477	3,267,275	3,668,652	566,097	8,104,068	16,997,553	78.8	4,572,924	1,505,089	2,107,751	4,091,030
Georgia Railroad	Oct.	328	496,313	80,000	622,991	91,565	147,555	23,834	246,876	633,895	101.8	—10,904	39,268	—41,455	104,834
	10 mos.	328	5,182,310	860,566	6,436,611	925,419	1,333,969	252,740	3,322,252	6,081,818	94.5	354,793	379,414	41,515	1,727,696
Georgia & Florida	Oct.	408	190,618	3,009	199,849	59,389	34,051	11,164	80,346	193,424	96.8	6,425	12,979	—18,607	—2,231
	10 mos.	408	1,915,029	32,481	2,004,437	555,357	282,967	117,573	808,626	1,844,525	92.0	159,912	123,240	—91,402	6,436
Grand Trunk Western	Oct.	972	3,243,000	207,000	3,687,000	635,543	614,149	46,430	1,648,340	3,065,659	83.2	621,341	219,945	282,471	628,978
	10 mos.	994	24,198,000	2,348,000	28,473,000	5,876,056	5,808,619	459,026	14,732,923	28,101,385	98.7	371,615	1,546,719	—2,262,764	4,124,306
Canadian Nat'l Lines in New England	Oct.	172	150,000	13,000	170,000	67,972	35,233	2,544	111,556	222,505	130,9	—52,505	24,814	—104,665	—93,382
	10 mos.	172	1,432,100	126,300	1,756,500	588,581	372,610	23,089	1,080,154	2,202,096	125.4	—445,596	229,552	—1,029,009	—709,345
Great Northern	Oct.	8,332	16,782,094	1,205,489	19,245,895	2,307,300	2,721,233	311,918	5,843,519	11,703,582	60.8	7,542,313	1,693,467	5,343,221	4,032,544
	10 mos.	8,332	113,329,393	13,946,755	138,950,553	24,573,238	25,120,256	2,865,837	50,348,689	108,108,589	77.8	30,841,964	11,440,597	18,084,177	29,112,652
Green Bay & Western	Oct.	234	256,882	316	263,589	44,385	27,663	11,903	89,208	186,131	70.6	77,458	20,578	42,254	11,196
	10 mos.	234	2,186,069	4,396	2,245,151	488,708	243,381	113,833	855,615	1,814,696	80.8	430,452	233,304	98,173	75,632

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Table continued on the next left-hand page

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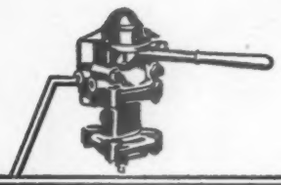

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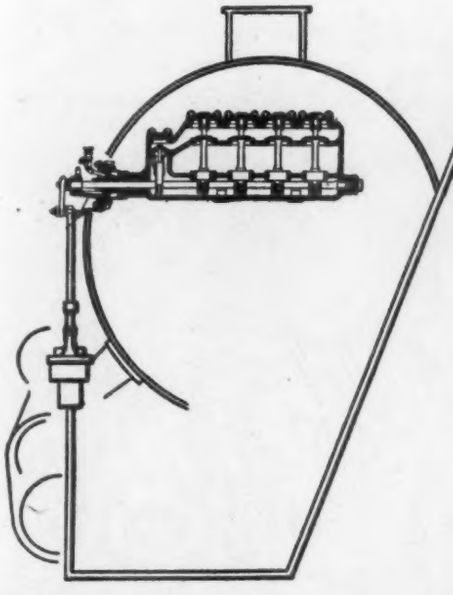

AMERICAN THROTTLE COMPANY
INCORPORATED
60 East 42nd Street, New York 17, N. Y.
122 S. Michigan Avenue, Chicago 3, Ill.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1946—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income: 1946	1945
Gulf, Mobile & Ohio	Oct.	1,945	$2,789,578	$115,055	$3,001,470	$575,698	$539,842	$104,249	$990,808	$2,360,743	78.7	$640,727	$271,283	$227,667	—$55,197
	10 mos.	1,945	26,353,705	1,543,485	28,877,847	5,705,327	5,400,631	1,040,999	10,312,344	23,919,898	82.8	4,957,949	2,135,695	1,250,353	3,021,463
Illinois Central R. R. Co. (System)	Oct.	6,582	15,896,613	2,296,387	19,568,951	3,499,971	3,473,792	344,527	7,209,803	15,392,950	78.7	4,176,001	2,524,122	1,520,497	1,494,752
	10 mos.	6,595	135,019,294	26,166,729	172,945,213	31,106,275	30,144,902	3,260,958	66,600,525	140,038,462	81.0	32,906,751	17,786,964	13,122,209	23,352,157
Illinois Terminal	Oct.	476	687,487	139,937	920,262	115,557	119,197	25,699	338,406	637,308	69.25	282,954	119,224	127,554	98,327
	10 mos.	476	5,595,047	1,439,800	7,823,195	1,163,109	1,107,383	239,874	3,126,223	5,958,273	76.16	1,864,922	852,027	757,232	1,119,241
Kansas City Southern	Oct.	890	2,222,179	176,404	2,603,165	275,848	346,770	73,812	886,873	1,687,139	64.8	916,026	318,000	485,999	766,633
	10 mos.	890	20,842,064	2,211,069	24,978,971	2,588,408	3,391,449	694,798	8,565,429	16,379,913	65.6	8,599,058	2,875,000	4,390,290	5,371,679
Kansas, Oklahoma & Gulf	Oct.	328	328,367	1,520	333,101	58,342	32,620	13,796	89,194	209,414	62.9	123,687	41,165	59,943	24,737
	10 mos.	328	3,056,537	15,501	3,103,945	471,568	247,664	131,568	871,329	1,862,295	60.0	1,241,650	425,015	562,611	775,641
Lake Superior & Ishpeming	Oct.	156	274,897	96	345,579	40,770	36,023	938	71,335	157,415	45.6	188,164	24,632	170,864	135,894
	10 mos.	156	1,598,594	910	1,954,991	414,494	385,115	8,548	527,461	1,419,183	72.6	535,808	316,629	278,654	738,441
Lehigh & Hudson River	Oct.	96	279,721	.....	280,363	46,505	41,397	6,659	95,116	196,996	70.3	83,367	34,408	28,066	17,065
	10 mos.	96	2,268,354	.....	2,273,509	408,270	343,510	62,592	791,183	1,678,540	73.8	594,969	249,956	183,375	224,815
Lehigh & New England	Oct.	189	639,224	.....	646,498	63,305	99,285	9,890	200,534	396,795	61.4	249,703	112,710	144,498	105,273
	10 mos.	190	5,482,931	.....	5,540,287	650,121	968,154	99,095	1,919,867	3,863,774	69.7	1,676,513	803,385	989,636	757,069
Lehigh Valley	Oct.	1,254	5,443,521	369,514	6,219,405	882,715	995,458	132,130	2,782,924	5,053,236	81.2	1,166,169	360,959	739,415	564,761
	10 mos.	1,254	46,338,019	5,286,218	55,500,326	7,608,383	8,203,362	1,283,903	26,291,138	45,700,862	82.3	9,799,464	4,119,696	4,162,337	4,361,538
Louisiana & Arkansas	Oct.	756	1,092,283	69,103	1,208,823	152,918	131,219	39,663	387,840	752,635	62.3	456,188	183,871	212,500	156,966
	10 mos.	756	9,772,751	915,825	11,114,700	1,427,719	1,454,785	368,487	3,667,502	7,359,863	66.2	3,754,837	1,358,846	1,736,747	2,184,405
Louisville & Nashville	Oct.	4,759	13,011,783	1,622,996	15,604,619	2,054,431	3,146,669	243,976	6,278,271	12,285,672	78.7	3,318,947	2,024,805	1,966,407	1,795,043
	10 mos.	4,759	111,576,885	20,799,545	141,031,038	19,891,374	29,776,286	2,538,934	59,151,542	116,993,111	83.0	24,037,927	15,387,613	12,988,200	20,126,523
Maine Central	Oct.	988	1,514,620	183,710	1,804,567	315,158	302,021	15,300	711,002	1,408,582	78.1	395,985	126,945	224,829	143,384
	10 mos.	988	13,931,011	2,299,740	17,229,542	2,994,633	3,120,860	159,448	7,284,298	14,141,867	82.1	3,087,675	1,255,163	1,196,488	1,471,913
Midland Valley	Oct.	334	166,139	93	170,009	34,425	15,614	2,854	53,607	113,203	66.6	56,806	12,031	34,920	19,380
	10 mos.	334	1,369,266	295	1,394,376	325,158	161,840	29,548	499,770	1,078,254	77.3	316,122	116,967	116,789	234,428
Minneapolis & St. Louis	Oct.	1,408	1,301,213	15,382	1,382,968	187,491	219,270	91,915	488,161	1,064,142	76.9	318,826	139,818	95,697	—300,862
	10 mos.	1,408	10,974,573	288,789	11,789,492	2,591,489	2,038,601	872,757	4,610,686	10,847,330	92.0	942,162	711,816	—17,366	981,607
Minneapolis, St. Paul & S. S. Marie	Oct.	3,224	3,270,196	137,065	3,590,237	471,639	409,296	51,445	1,225,729	2,242,590	62.5	1,347,647	155,704	1,048,838	851,084
	10 mos.	3,224	20,214,542	1,500,097	23,370,311	4,821,962	4,006,476	475,705	10,597,252	20,765,165	88.9	2,605,146	1,699,814	695,305	2,571,152
Duluth, South Shore & Atlantic	Oct.	530	379,923	16,105	432,445	77,737	64,437	14,976	187,962	354,144	81.9	78,301	21,479	46,431	15,908
	10 mos.	530	3,068,846	153,963	3,476,440	753,749	647,937	136,175	1,562,629	3,195,188	91.9	281,252	210,772	—22,036	465,437
Spokane International	Oct.	152	148,579	2,012	160,139	20,326	20,409	3,552	52,872	105,102	65.6	55,037	4,978	39,029	17,149
	10 mos.	152	1,205,306	26,636	1,312,505	277,882	165,679	32,176	462,703	* 1,008,265	76.8	304,240	71,334	146,528	213,787
Mississippi Central	Oct.	148	146,021	† 740	152,157	57,090	33,426	9,348	57,894	165,342	108.7	—13,185	11,464	—36,711	11,366
	10 mos.	154	1,103,129	32,914	1,170,231	285,132	166,757	93,786	348,307	964,372	82.4	205,859	72,805	22,776	215,331
Missouri & Arkansas	Oct.	....	5,425	304	5,829	7,509	4,637	2,967	6,212	26,473	454.1	—20,644	1,456	—24,899	29,552
	10 mos.	....	1,170,795	17,783	1,268,032	350,785	198,656	67,777	536,814	1,215,210	95.8	52,822	56,032	—146,848	—280,571
Missouri-Illinois	Oct.	172	316,577	542	318,940	50,435	34,235	5,043	87,987	184,782	57.9	134,158	56,841	64,105	30,863
	10 mos.	172	2,853,996	4,480	2,881,395	472,049	343,348	48,887	843,734	1,782,195	61.9	1,099,200	485,730	520,499	356,603
Missouri-Kansas-Texas Lines	Oct.	3,253	3,905,823	495,495	4,896,105	910,795	592,409	184,186	2,019,428	3,962,370	80.9	933,735	352,802	307,217	438,244
	10 mos.	3,253	39,351,381	6,551,743	50,449,883	8,728,063	7,283,495	1,929,746	20,031,738	40,613,756	80.5	9,836,127	4,099,251	3,572,177	5,962,319
Missouri Pacific	Oct.	7,075	12,639,912	1,794,195	15,852,630	2,289,702	2,771,197	351,386	5,877,111	11,913,461	75.2	3,939,169	840,006	2,622,161	2,252,941
	10 mos.	7,075	113,138,077	18,322,559	143,881,868	21,685,408	25,862,514	3,462,017	56,882,079	113,931,779	79.2	29,950,089	8,499,990	15,571,770	26,017,011
Gulf Coast Lines	Oct.	1,934	2,187,185	126,158	2,454,657	556,054	393,127	74,310	990,717	2,119,562	86.35	335,095	* 36,706	214,258	276,598
	10 mos.	1,934	27,952,411	1,863,271	31,174,381	5,740,097	3,591,832	661,218	10,217,538	21,190,310	67.97	7,984,071	2,257,721	5,243,605	4,425,930
International-Great Northern	Oct.	1,110	1,645,025	334,753	2,243,607	430,195	391,571	43,675	989,643	1,979,813	88.2	263,794	105,195	17,437	274,847
	10 mos.	1,110	16,494,197	3,260,497	22,176,733	4,597,045	3,571,999	423,853	9,493,002	19,208,734	86.6	2,967,999	1,050,270	273,542	2,846,562
Monongahela	Oct.	170	648,822	1,290	653,314	81,352	57,518	785	181,122	324,938	49.7	328,376	54,985	172,272	—53,516
	10 mos.	170	4,935,375	20,149	4,985,908	674,718	509,183	8,698	1,516,636	2,752,254	55.2	2,233,654	531,059	866,537	784,241

† Debtor, * Credit.

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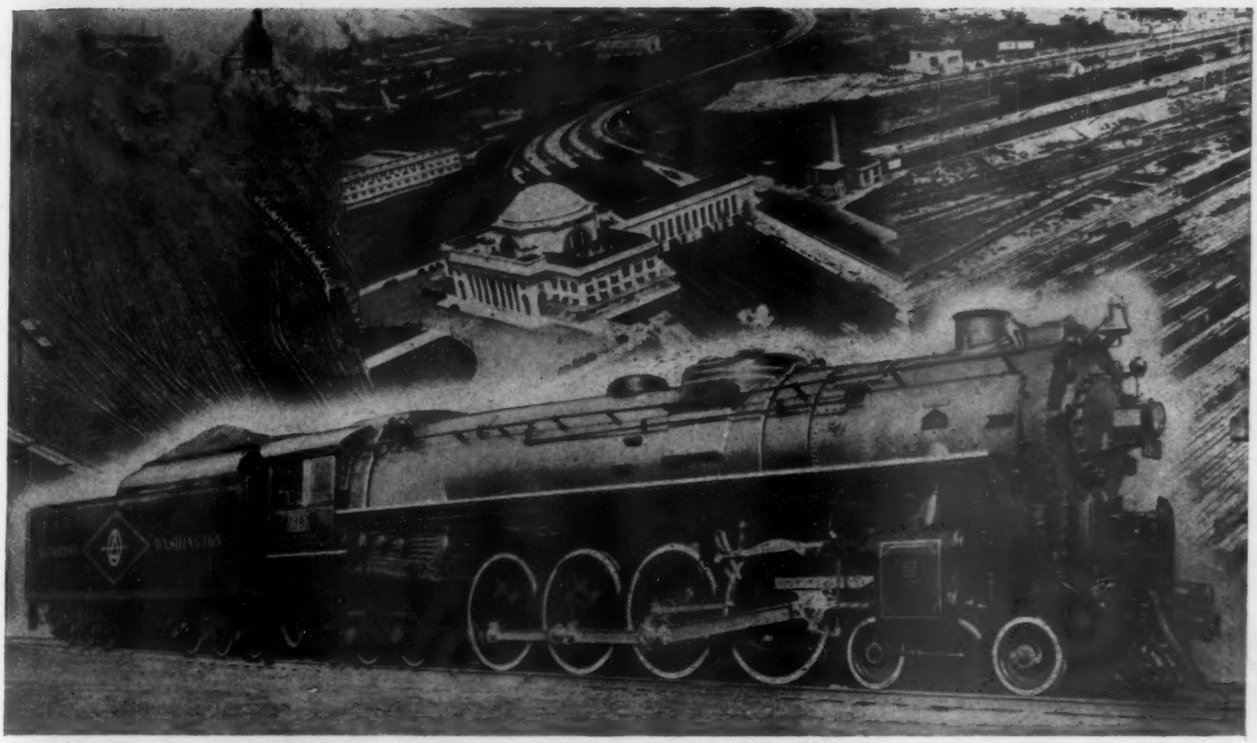

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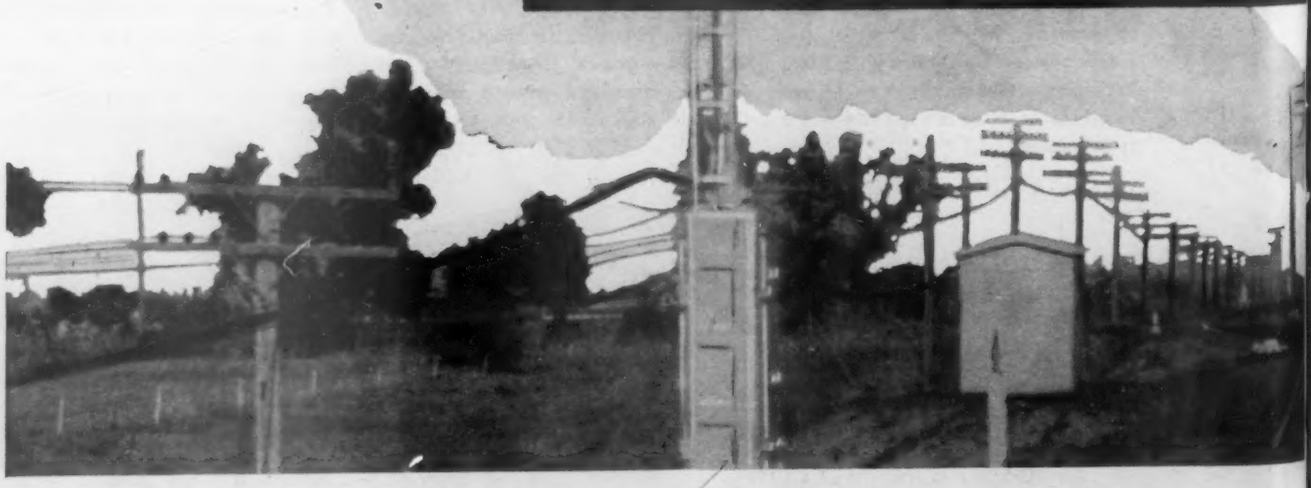

too

Over the prairies from Lincoln, Nebraska to McCook, the 228 miles of the Burlington Route's single-track line crosses rolling country where grades are light and curves seldom exceed one degree. Two CTC machines, located at each end of the line in Lincoln and McCook, control the 64 switches on this 228-mile section of continuous CTC.

On this, one of the longest continuous CTC territories in the country, the Burlington has speeded up train schedules and increased gross ton-miles per train-hour. They are experiencing exactly the same sort of operating advantages that their previous installations of G-R-S CTC had led them to expect.

In your operation, CTC may be the means to faster schedules, lower maintenance costs, fewer stops or the deferment of extra-track construction. G-R-S engineers will be glad to make a study of your operation, and let you know in advance exactly what you can look for from this kind of signal modernization. Call on them through our nearest district office.

General Railway Signal Company

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1946—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues			Operating expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1946	1945
Montour	Oct.	51	$324,332	.....	$326,221	$26,340	$64,374	$1,156	$111,430	$213,040	65.3	$113,181	$67,208	$83,104	$18,817
	10 mos.	51	2,233,953	.....	2,246,516	235,891	645,083	13,057	815,853	1,796,678	80.0	449,838	379,768	408,705	557,713
Nashville, Chattanooga & St. Louis	Oct.	1,053	2,065,544	$210,769	2,489,982	592,222	542,293	86,604	1,100,444	2,421,604	97.3	68,378	—554,314	634,814	75,259
	10 mos.	1,053	18,786,987	3,293,690	24,191,711	5,085,080	5,187,858	951,439	10,910,132	23,092,616	95.5	1,099,095	1,005,114	54,906	2,955,040
New York Central	Oct.	10,746	40,949,751	10,634,288	57,349,468	8,618,181	12,432,204	861,659	26,032,864	50,545,627	88.1	6,803,841	3,196,005	2,126,578	4,381,723
	10 mos.	10,746	338,443,650	123,901,372	511,519,097	74,697,679	107,098,062	8,721,511	237,756,731	454,497,352	88.9	57,021,745	27,398,244	14,927,136	46,440,907
Pittsburgh & Lake Erie	Oct.	229	2,685,775	88,314	2,874,154	385,616	882,190	54,189	1,055,713	2,515,576	87.5	358,578	582,192	358,197	172,790
	10 mos.	229	21,106,788	959,123	22,974,094	3,520,337	8,213,906	535,547	10,062,491	23,649,132	102.9	—675,038	2,461,276	2,662,819	3,751,682
New York, Chicago & St. Louis	Oct.	1,687	6,969,617	136,690	7,285,428	863,367	1,221,028	169,552	2,726,906	5,228,010	71.8	2,057,418	738,018	974,766	—1,808,962
	10 mos.	1,687	57,401,103	2,274,202	61,069,809	8,469,372	10,425,945	1,753,219	25,020,515	48,011,015	78.6	13,058,794	2,934,245	7,038,104	11,554,814
New York, New Haven & Hartford	Oct.	1,843	7,399,385	4,788,654	13,333,813	2,153,446	1,967,678	239,556	5,850,304	11,156,114	83.7	2,177,699	510,000	500,950	2,058,540
	10 mos.	1,841	62,788,164	51,278,716	124,072,021	19,913,174	19,265,816	2,172,654	56,022,626	106,298,573	85.7	17,773,448	5,892,500	625,475	15,681,900
New York Connecting	Oct.	21	194,759	.....	206,723	54,933	14,638	.....	61,587	133,517	64.6	73,206	36,579	90,621	242,240
	10 mos.	21	1,751,243	.....	1,786,765	568,258	153,478	.....	595,575	1,339,995	75.0	446,770	520,614	851,930	1,709,389
New York, Ontario & Western	Oct.	547	550,437	2,042	628,757	164,774	125,543	25,133	350,240	695,967	110.7	—67,210	44,620	—205,156	—118,879
	10 mos.	547	5,251,754	158,545	6,098,010	1,158,048	1,145,699	252,865	3,414,636	6,261,159	102.7	—163,149	415,471	—1,359,458	—890,948
New York, Susquehanna & Western	Oct.	120	352,611	42,017	411,492	63,903	49,465	4,729	201,079	340,915	82.8	70,577	2,775	10,954	31,922
	10 mos.	120	2,871,854	404,128	3,418,126	377,395	399,132	47,855	1,573,362	2,579,791	75.5	838,335	289,071	42,775	531,802
Norfolk & Western	Oct.	2,161	11,753,649	693,801	12,783,165	1,879,038	2,409,282	214,445	3,800,631	8,709,865	68.1	4,073,300	2,662,799	2,306,625	1,585,436
	10 mos.	2,161	96,959,251	9,442,332	109,509,620	14,860,130	22,298,420	2,075,263	33,807,311	76,978,593	70.3	32,531,027	20,781,099	19,564,470	20,104,000
Norfolk Southern	Oct.	727	669,522	6,919	700,860	153,655	86,587	37,186	280,072	593,533	84.7	107,237	46,151	23,205	43,574
	10 mos.	727	6,239,831	125,981	6,588,422	1,631,360	837,738	362,589	2,608,104	5,792,928	87.9	795,484	412,179	13,512	463,460
Northern Pacific	Oct.	6,920	11,029,434	1,097,654	13,059,275	1,616,876	2,169,955	220,972	4,483,673	9,105,843	69.7	3,953,432	1,770,697	2,484,747	4,021,671
	10 mos.	6,887	81,781,641	12,476,342	104,069,540	17,907,882	20,603,024	2,145,250	40,335,514	87,112,282	83.7	16,957,258	10,376,655	10,406,843	22,621,418
Northwestern Pacific	Oct.	331	522,906	11,300	561,525	129,659	65,064	4,456	261,282	469,716	83.7	91,809	35,284	23,318	50,161
	10 mos.	331	3,854,425	76,272	4,162,094	1,463,580	660,395	36,770	2,138,249	4,388,263	105.4	—226,169	293,490	—748,965	516,610
Oklahoma City-Ada-Atoka	Oct.	132	84,162	5	84,992	17,833	3,861	1,306	26,832	53,160	62.5	31,832	12,411	8,888	14,043
	10 mos.	132	748,227	28	771,148	211,924	34,773	12,832	238,543	536,421	69.6	234,727	77,940	44,464	133,181
Pennsylvania	Oct.	10,121	56,336,957	15,526,806	78,018,089	9,192,409	16,096,165	1,234,468	35,790,025	65,163,365	83.5	12,854,724	3,879,620	8,483,458	4,244,069
	10 mos.	10,121	453,227,057	176,746,070	682,519,891	85,979,487	158,344,522	13,105,348	333,136,493	621,312,873	91.0	61,207,018	37,322,932	18,271,033	94,911,742
Long Island	Oct.	376	1,365,943	2,322,075	3,916,550	463,777	624,769	27,414	2,031,379	3,217,064	82.1	699,486	432,728	—59,869	131,491
	10 mos.	376	11,400,967	25,392,825	38,774,586	4,283,048	5,666,745	294,407	19,440,156	30,431,900	78.5	8,342,686	4,385,328	960,493	3,457,209
Pennsylvania-Reading Seashore Lines	Oct.	390	554,658	270,211	861,432	178,159	121,257	8,565	513,282	846,698	98.3	14,734	76,198	—174,634	—229,889
	10 mos.	390	4,391,131	4,842,134	9,548,662	1,688,131	1,134,920	89,151	5,419,392	8,588,983	89.9	959,679	757,569	—1,096,696	43,041
Pere Marquette	Oct.	1,950	4,638,351	196,794	5,124,666	628,118	796,866	107,130	2,114,885	3,864,077	75.4	1,260,589	324,115	733,917	—1,676,338
	10 mos.	1,949	36,499,205	2,146,169	41,232,042	6,293,421	7,928,039	1,023,438	18,284,646	35,680,850	86.5	5,551,192	2,626,962	1,558,624	3,303,023
Pittsburg & Shawmut	Oct.	97	188,436	.....	189,459	52,902	27,401	3,064	56,646	146,948	77.6	42,511	6,295	33,237	—4,264
	10 mos.	97	1,429,796	.....	1,438,324	357,606	255,702	26,727	455,054	1,156,571	80.4	281,753	51,439	170,167	177,498
Pittsburgh & West Virginia	Oct.	136	436,288	35	468,640	91,687	107,957	31,340	130,094	390,274	83.3	78,366	31,163	82,718	10,160
	10 mos.	136	3,694,398	78	3,918,437	768,399	913,490	286,722	1,236,491	3,500,825	89.3	417,612	281,582	400,110	1,124,731
Pittsburg, Shawmut & Northern	Oct.	122	66,666	.....	68,106	15,044	13,708	1,068	25,867	62,615	91.9	5,491	5,071	—7,394	—18,674
	10 mos.	156	686,092	.....	699,665	156,217	131,962	10,775	314,519	693,508	99.1	6,157	52,702	—135,283	—131,429
Reading	Oct.	1,362	8,214,966	625,307	9,244,130	1,403,229	1,844,224	117,925	3,737,316	7,345,456	79.5	1,898,674	910,619	964,909	852,754
	10 mos.	1,362	71,463,509	8,218,371	83,620,703	13,355,112	17,075,716	1,057,414	35,867,429	69,817,813	83.5	13,802,890	7,569,383	5,868,829	11,336,335
Richmond, Fredericksburg & Potomac	Oct.	118	1,174,283	586,604	1,950,016	277,390	286,831	18,925	774,545	1,462,254	75.0	487,762	240,611	182,089	176,911
	10 mos.	118	11,604,399	8,469,892	21,622,570	2,796,534	2,936,743	169,429	8,076,797	15,061,703	69.7	6,560,867	3,094,212	2,436,067	1,769,660
Rutland	Oct.	407	358,711	49,570	493,619	67,271	85,708	12,322	249,571	429,419	87.0	64,200	27,588	22,054	—20,093
	10 mos.	407	3,066,567	503,771	4,263,596	663,891	831,861	127,538	2,334,079	4,108,943	96.4	154,653	265,959	—209,218	—63,141
St. Louis-San Francisco	Oct.	4,645	7,000,497	830,403	8,472,653	970,921	1,657,348	189,811	3,409,552	6,492,760	76.6	1,979,893	532,558	1,505,187	315,175
	10 mos.	4,645	58,896,208	11,262,103	76,419,518	12,591,367	16,533,321	1,978,618	33,011,023	67,782,052	88.7	8,637,466	5,331,622	4,019,574	12,915,918
St. Louis, San Francisco & Texas	Oct.	160	203,927	18,915	237,356	44,850	33,945	13,924	134,671	236,658	99.7	698	13,037	—37,932	8,430
	10 mos.	160	2,586,072	217,267	2,923,049	447,981	381,558	132,622	1,378,790	2,426,684	83.0	496,365	136,597	92,421	294,558

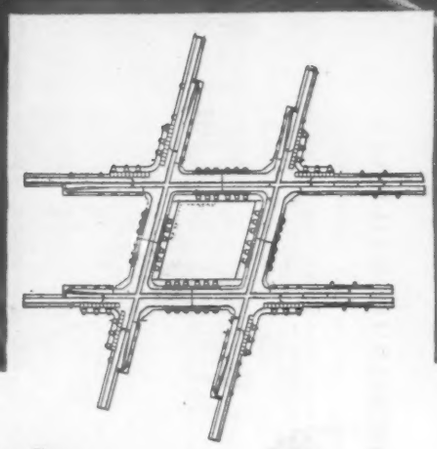
* Credit.

Table continued on the next left-hand page

Depth Hardened

SOLID MANGANESE STEEL

CROSSINGS



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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1946—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues			Operating expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1946	1945
St. Louis Southwestern Lines	Oct.	1,575	$3,923,442	$141,399	$4,209,431	$611,348	$491,144	$123,037	$1,306,093	$2,680,649	63.7	$1,528,782	$538,881	$809,827	—$632,864
	10 mos.	1,575	35,173,316	1,571,517	38,126,887	6,389,177	5,689,630	1,196,526	12,393,453	27,168,235	71.3	10,958,652	3,774,636	5,657,265	7,800,121
Seaboard Air Line	Oct.	4,153	7,034,741	1,270,830	8,966,047	1,548,641	1,648,711	274,791	3,710,823	7,645,797	85.3	1,320,250	587,220	463,960	1,535,415
	10 mos.	4,150	68,542,216	18,030,153	92,863,218	15,460,913	16,435,477	2,650,487	37,439,312	76,675,595	82.6	16,187,623	4,966,486	7,903,590	15,949,751
Southern Railway	Oct.	6,484	15,476,009	2,244,436	18,943,322	2,680,794	3,596,897	310,112	7,642,662	14,945,839	78.9	3,997,483	1,852,973	1,788,433	2,603,828
	10 mos.	6,484	136,058,390	29,880,723	177,576,125	28,023,951	32,954,563	3,117,735	72,183,960	143,471,032	80.8	34,105,093	15,633,528	14,645,837	24,400,376
Alabama Great Southern	Oct.	315	1,073,270	129,124	1,285,253	207,142	317,538	24,914	511,245	1,112,691	86.6	172,562	113,081	66,817	161,227
	10 mos.	315	9,032,981	2,119,806	11,917,534	2,062,809	2,827,630	258,790	4,678,140	10,383,837	87.1	1,533,697	1,035,069	416,892	1,381,465
Cinn., New Orleans & Texas Pacific	Oct.	337	2,342,839	355,636	2,849,620	325,228	576,745	51,015	907,173	1,950,107	68.4	899,513	521,411	456,481	237,699
	10 mos.	337	19,727,952	3,403,494	24,572,828	3,057,591	5,645,715	441,516	8,694,233	18,779,587	76.4	5,793,241	3,140,141	3,131,062	3,603,779
Georgia Southern & Florida	Oct.	397	367,739	60,666	465,671	97,835	72,333	6,651	204,256	395,468	84.9	70,203	28,767	13,456	71,314
	10 mos.	397	3,278,571	908,297	4,591,620	914,613	696,646	62,584	2,003,406	3,829,994	83.4	761,626	279,861	171,883	660,600
New Orleans & Northeastern	Oct.	204	692,748	73,193	816,686	149,018	99,699	14,020	262,772	559,323	68.5	257,363	105,893	96,586	123,829
	10 mos.	204	5,473,029	1,164,505	7,073,251	1,427,999	878,985	139,461	2,298,856	5,112,491	72.3	1,960,760	767,652	573,750	996,440
Southern Pacific	Oct.	8,227	25,694,505	4,686,057	33,301,889	4,023,456	6,993,984	671,539	16,802,861	30,795,413	92.5	2,506,476	*1,767,261	2,836,587	3,453,807
	10 mos.	8,242	232,413,514	60,696,115	321,771,933	47,210,141	67,033,716	7,262,211	142,502,247	287,157,093	89.2	34,614,840	580,778	20,558,613	30,234,083
Texas & New Orleans	Oct.	4,322	7,175,754	1,029,012	8,832,170	1,448,119	1,275,334	201,541	3,568,304	6,915,520	78.3	1,916,650	*205,570	1,720,969	1,343,573
	10 mos.	4,322	65,125,345	13,961,963	84,989,805	15,274,449	13,876,688	1,903,160	32,813,651	68,247,169	80.3	16,742,636	257,257	12,098,431	12,437,850
Spokane, Portland & Seattle	Oct.	944	1,555,237	62,144	1,724,199	386,970	210,557	17,168	641,205	1,325,615	76.9	398,584	* 28,732	303,054	—717,240
	10 mos.	944	13,664,264	988,984	15,684,186	4,524,772	1,931,113	167,170	6,020,482	13,343,885	85.1	2,340,301	326,244	1,057,459	2,808,735
Tennessee Central	Oct.	286	304,424	18,022	346,077	67,988	75,782	7,173	155,335	321,575	92.9	24,502	29,854	—24,093	58,968
	10 mos.	286	2,663,003	164,582	3,004,427	575,027	577,346	71,117	1,348,419	2,724,755	90.7	279,672	267,439	—155,106	255,406
Texas & Pacific	Oct.	1,873	3,643,781	565,288	4,686,950	668,763	772,415	142,568	1,754,760	3,646,422	77.8	1,040,528	260,578	648,413	925,327
	10 mos.	1,873	33,275,097	8,733,828	46,509,396	7,034,726	7,172,984	1,390,865	16,444,104	34,999,009	75.3	11,510,387	3,586,537	6,399,440	8,666,436
Texas Mexican	Oct.	162	160,890	140	188,124	35,490	42,328	4,981	55,518	149,759	79.6	38,365	17,316	5,321	41,591
	10 mos.	162	1,810,372	2,769	2,049,530	453,721	239,728	48,130	621,027	1,474,326	71.9	575,204	192,915	229,069	325,116
Toledo, Peoria & Western	Oct.														
	10 mos.														
Union Pacific System	Oct.	9,775	27,333,227	4,431,900	34,635,052	3,805,513	6,456,990	637,954	13,658,650	26,510,078	76.5	8,124,974	3,644,217	2,763,006	1,418,383
	10 mos.	9,775	217,264,262	56,110,334	300,465,665	39,020,727	58,111,355	6,432,538	115,970,457	238,818,759	79.5	61,646,906	29,267,437	22,182,058	31,204,699
Utah	Oct.	111	160,456	.....	160,613	28,793	40,955	727	81,858	139,111	86.6	21,502	11,535	10,545	29,876
	10 mos.	111	1,308,930	.....	1,310,519	225,707	367,961	6,931	492,572	1,146,706	87.5	163,813	177,515	71,870	151,463
Virginian	Oct.	661	1,891,127	6,296	1,942,330	305,569	630,968	33,673	536,963	1,570,814	80.9	371,516	291,000	285,727	329,788
	10 mos.	661	20,315,517	78,037	20,961,730	2,763,395	5,890,371	318,345	5,333,105	14,946,040	71.3	6,015,690	3,430,600	4,017,970	6,444,729
Wabash	Oct.	2,393	6,604,142	511,423	7,571,630	1,180,223	1,072,572	215,164	3,050,216	5,815,243	76.8	1,756,387	718,304	614,606	683,955
	10 mos.	2,393	55,266,688	6,473,607	66,004,359	10,618,667	10,169,940	2,069,879	28,477,805	54,238,480	82.2	11,765,879	2,730,442	5,236,506	7,526,589
Ann Arbor	Oct.	294	545,337	9,769	570,128	80,188	114,354	20,493	248,633	478,448	83.9	91,680	34,955	48,075	41,664
	10 mos.	294	4,714,738	74,086	4,977,241	732,187	986,205	194,055	2,380,123	4,439,453	89.2	537,788	308,002	120,059	567,861
Western Maryland	Oct.	839	2,835,957	16,803	2,949,932	445,077	575,205	60,397	977,292	2,167,974	73.5	781,958	352,000	497,439	532,240
	10 mos.	839	25,134,354	327,736	26,555,986	3,680,990	5,145,212	592,587	9,005,504	19,549,995	73.6	7,005,991	3,287,000	4,188,093	5,315,728
Western Pacific	Oct.	1,195	3,821,812	375,815	4,315,664	617,016	629,043	119,747	1,378,296	2,921,572	67.7	1,394,092	606,655	614,396	754,985
	10 mos.	1,195	28,502,080	5,878,722	35,644,975	5,310,108	5,808,168	1,153,109	12,917,560	26,997,446	75.7	8,647,529	3,788,639	3,872,885	5,602,826
Wheeling & Lake Erie	Oct.	505	2,213,837	1	2,324,184	299,467	331,699	51,996	753,717	1,489,494	64.1	834,690	456,217	532,750	—203,236
	10 mos.	505	16,903,906	16	17,648,466	2,588,247	3,308,064	498,596	6,385,478	13,363,162	75.7	4,285,304	3,055,210	2,906,320	2,400,868
Wisconsin Central	Oct.	1,051	1,875,597	65,721	2,101,654	351,851	289,530	46,624	863,826	1,622,299	77.2	479,355	—73,452	410,957	300,558
	10 mos.	1,051	16,299,226	958,950	18,916,305	2,559,715	2,901,499	473,508	8,493,676	15,122,296	79.9	3,794,009	400,362	2,266,366	1,946,942

* Credit.

Current Publications

Pamphlets

The American Competitive Enterprise System. 24 pages. Published by the Chamber of Commerce of the United States, Washington 6, D. C. Price, ten cents.

A brief description and analysis of the American competitive enterprise system, of the relation between government and business, and of the prospects for the years ahead.

Communist Infiltration in the United States; Its Nature and How to Combat It. 40 pages. Published by the Chamber of Commerce of the United States, Washington 6, D. C. Prices, deLuxe edition, 6 in. by 9 in., twenty-five cents; smaller edition, 4 in. by 9 in., ten cents.

This report analyzes the nature of the techniques and devices now employed by the Communists and their fellow-travelers to weaken this country industrially and militarily. It also sets forth a program of counterattack.

Books

Grand Central, by David Marshall. 280 pages, illustrations. Published by Wittlesey House, McGraw-Hill Book Company, Inc., 330 W. 42nd st., New York 18, N. Y. Price, $3.50.

The story of Grand Central Terminal, its history and inner workings. Included are stories of the famous trains that come into Grand Central; the truth of why the famed star-studded ceiling was painted in reverse; the reason for the fabulous red carpet; the celebrated names behind the history of the stations. Numerous people who are a part of this great terminal are introduced to the reader—Jake, the "Keeper of the Clocks", the men who manage the oyster bar, station masters, red caps, and many others.

Commerical Air Transportation, by John H. Frederick. Revised edition, 791 pages, illustrations. Published by Richard D. Irwin, Inc., 332 South Michigan ave., Chicago, Ill. Price, $5.00.

This revised edition of a book first published in 1942 has been almost entirely rewritten in order to key all discussions to present times. The book is divided into four parts in which are discussed the air transportation system of the United States, federal regulation of air transportation, problems and services of commercial air transportation and airline operations. A short bibliography on commercial air transportation is included as well as material on airline employment possibilities.

Freight Transportation for Profit, by Henry B. Cooley. 206 pages. Published by Cornell Maritime Press, 241 W. 23rd st., New York, 11, N. Y. Price, $5.00.

This book deals with new, efficient methods for profitable operation of air, water, truck and rail transportation companies. Special chapters are devoted to the problems of loading characteristics and selection of carrier; cost characteristics of commodities; cost determination for specific operations; labor costs in transportation and competition in transportation.

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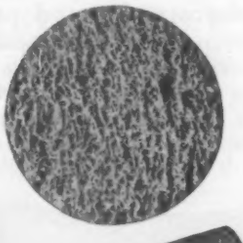

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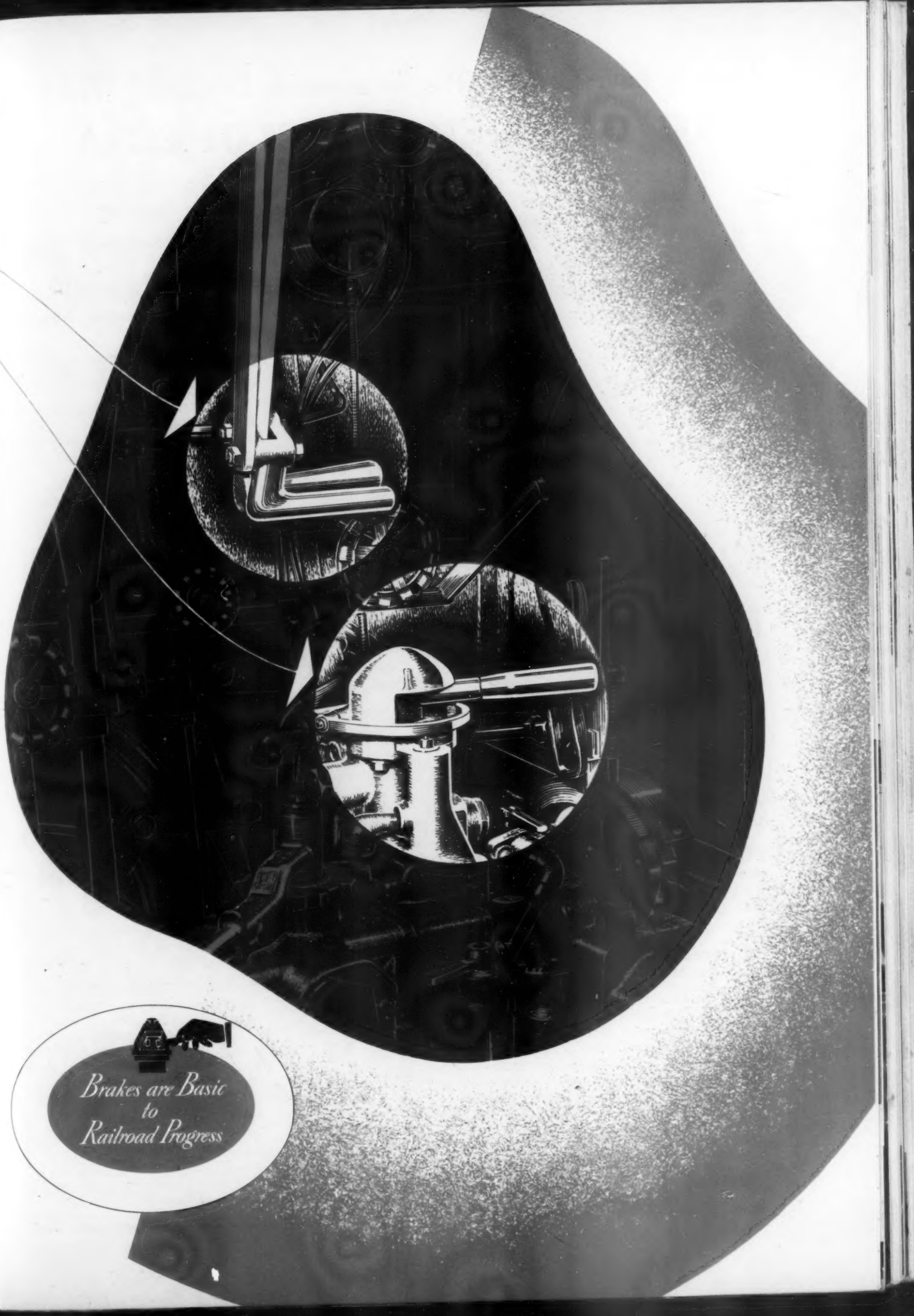
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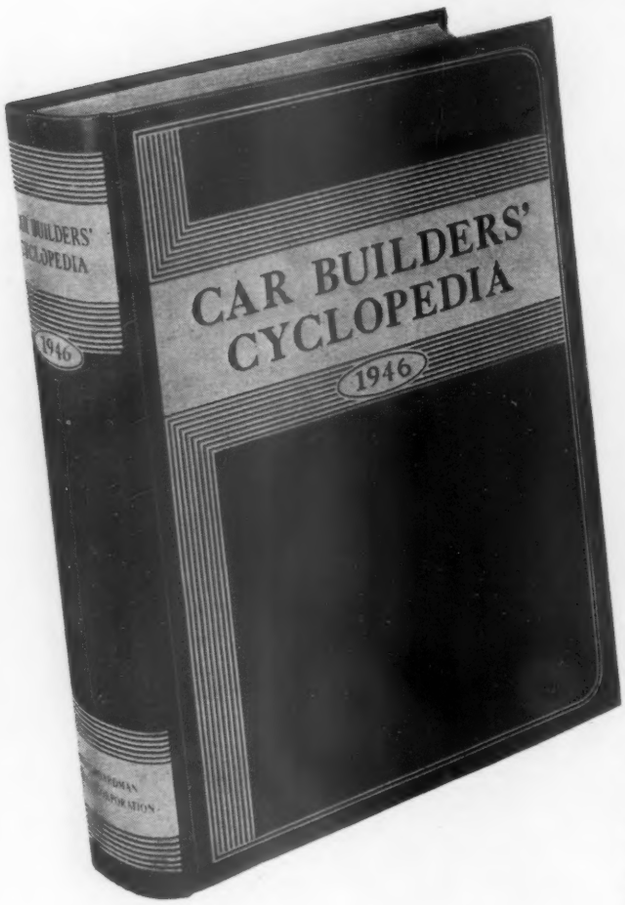

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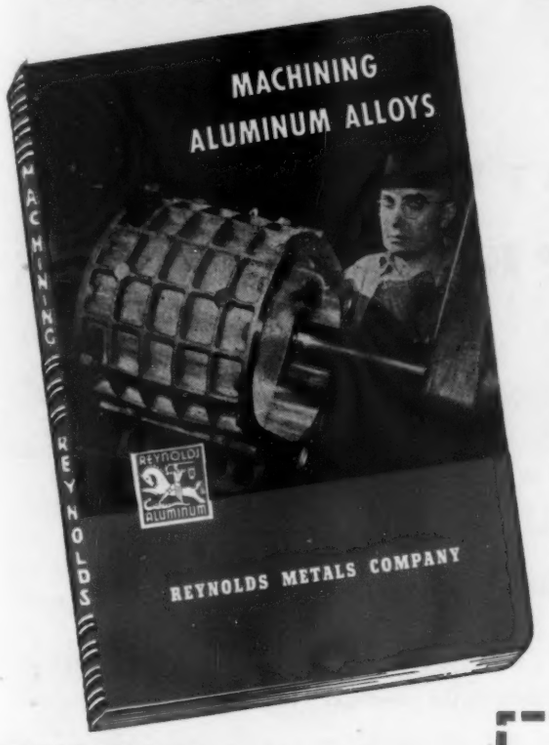

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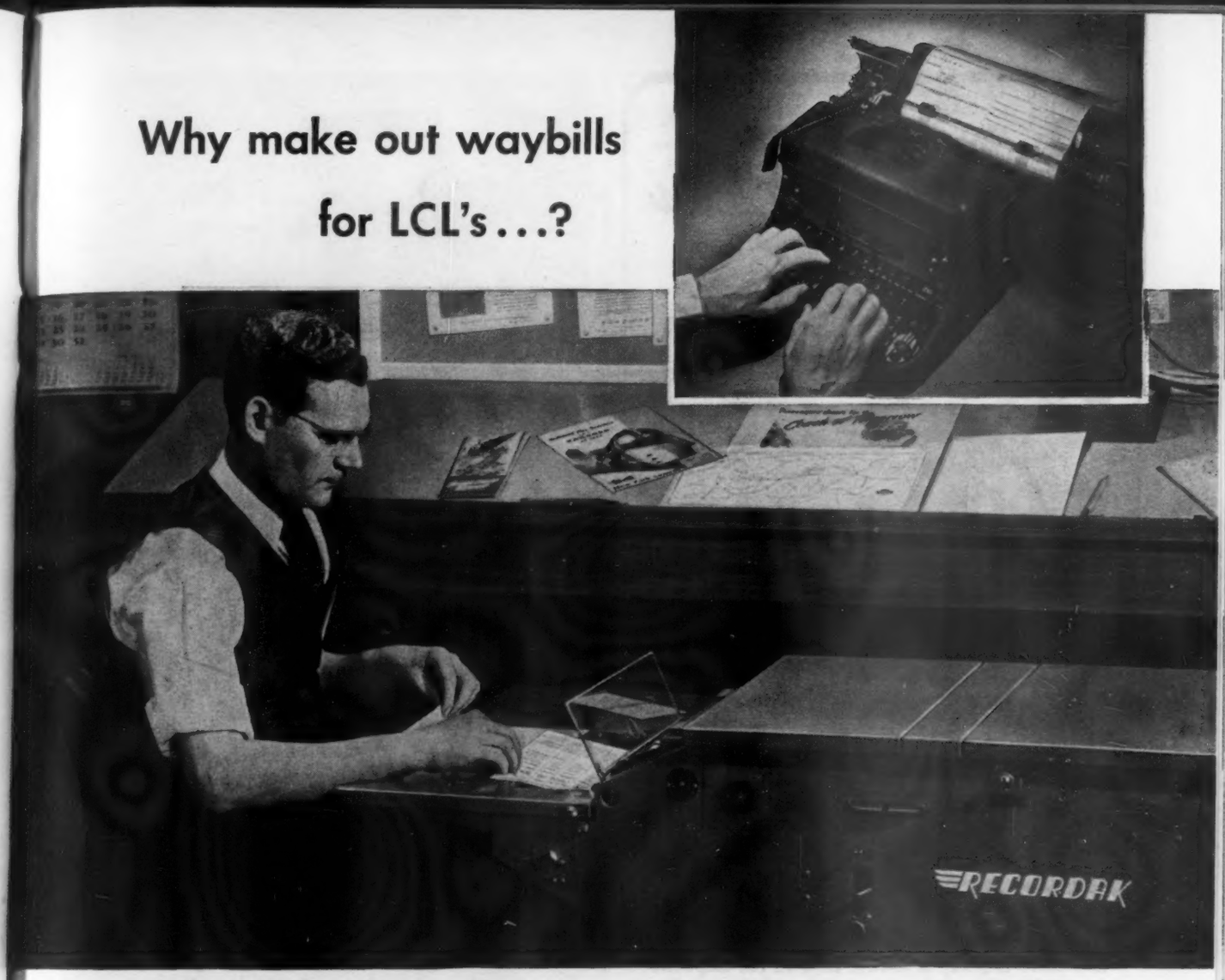

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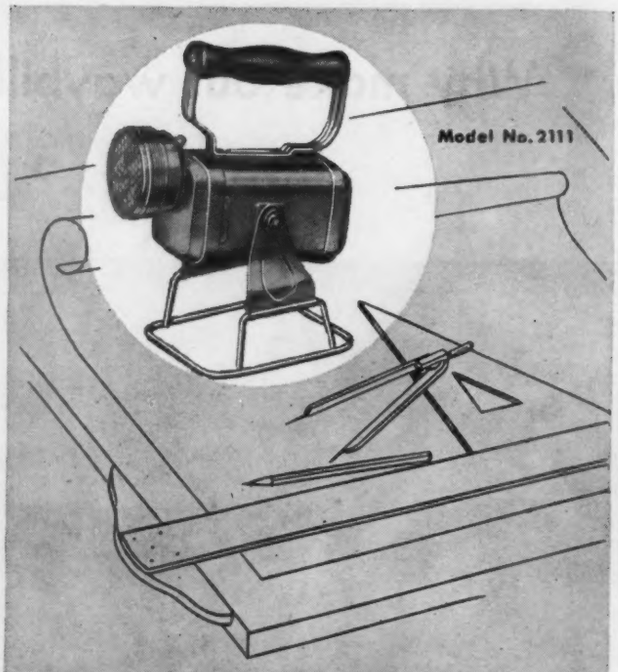

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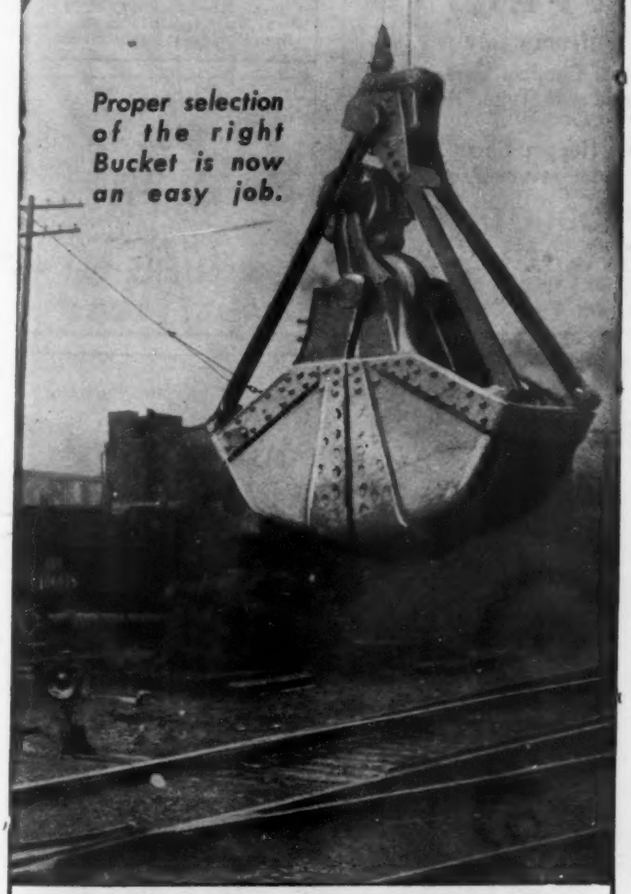

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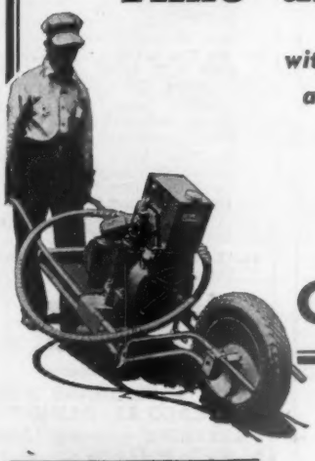

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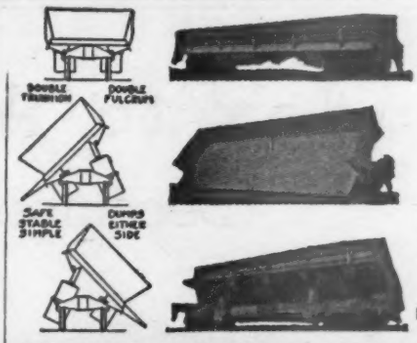

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